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ORIGINAL ARTICLES.

PHYSIOLOGICAL DIETETICS.

BY ALFRED K. HILLS.

FOURTH ARTICLE.

CLINICAL.

IT was recently remarked by Dr. William Pepper (*Medical and Surgical Reporter*, May 10, 1884) that during the past decade there has been a constantly growing appreciation of the value of dietetics; indeed, we may safely assert that it is becoming recognized that in very many conditions of impaired health and actual disease successful treatment depends chiefly or exclusively upon proper diet and regimen. He believed that from a proper study of the wide range and varied character of the morbid symptoms resulting from the gift of food abused, and the wonderful remedial effects of varied forms of diet, it would appear that it is in this line more than in any other that the greatest triumphs of therapeutics are to be won in the near future. In estimating the influence of the factors of our physical life upon the development of the individual or race, too much importance has been attached to climate, and far too little to diet and personal hygiene. The so-called typical American, with his pale, sallow face, and tall, slender figure, full of the irritable restlessness bred of nervous dyspepsia, certainly differs widely from his English, Irish or German ancestors, and the interesting question arises whether his physical peculiarities are inseparably dependent upon our climatic conditions, or upon other and transient influences. Prof. Pepper stated his deliberate conclusion that it is to the latter conditions almost exclusively that we are to attribute these results. He indicated the abuses of various articles of food and drink which are the undoubted cause of this state of things, and reiterated his opinion that this was the cause of most of the physical peculiarities commonly assigned to the American climate. He believed that with due regard to the conditions, there is no more favorable climate upon earth than our own. He deprecated, too, the excessive share which has been attributed to overwork in the production of many forms of nervous exhaustion. In his own experience, cases really induced by this cause were rare, and in the vast majority of instances an amount of work entirely consistent with long-maintained health is rendered destructive by reckless disregard of the laws of health. It is true that the conditions of our higher forms of work in America are more difficult than in older and better organized communities, but a study of the habits of professional and business men in other countries has convinced him that the important question is really "How to live while working."

If it were possible for all to appreciate correctly their physical condition and capacity at the outset, so as to adopt their method of work to their physical requirements, we should see quite as much or more work done with infinitely fewer instances of (physical) disaster. The velocity and range of a projectile vary directly as the initial power, and inversely as the mass to be moved. In its application to the human body this is a most pregnant truth. To adjust the actual weight of the body to the physical powers of the individual, and to render these innumerable minute processes as easy and complete as possible, is the aim of dietetics and regimen, and the common-sense policy of every man who aspires to work to the best advantage. The enduring capacity of a man is measured by his weakest organ only. We are able, by intelligence and self-restraint to spare this weak spot, and enable ourselves to tax our stronger parts to their full extent. The weak spot is commonly at some point in the assimilative process, but by no means usually in the stomach and intestines, or, at least, not manifested there most clearly. While the original cause of the trouble may lie there, it very often shows itself in the subsequent changes, whether interstitial or metabolic. For instance, the absence of well-marked attacks of gout long blinded our eyes to the fact that the gouty diathesis is widely prevalent in this country. It is difficult to define gout, but it seems necessary to include under this head all that large series of cases, with or without marked gastro-intestinal disturbances, in which there is obstruction to and deficiency of the ulterior assimilative changes before the food reaches its final fully digested forms.

He wished to call special attention to the great frequency with which, out of the presence of one or more of the causes, there is gradually evolved the complicated condition to which it is becoming the habit to apply the name of neurasthenia, and which is too often regarded as the result of pure nervous

exhaustion from overwork, and, therefore, requiring simple tonics, rest and high feeding. Such cases, after they have been brought up to a certain point, require a protracted course of well-ordered regimen, dietetics and exercise.

He remarked, on the revival of the hot water mania, and said that the truth about it is that there are not a few cases of dyspepsia and lithæmia, of certain types of rheumatism, and gastro-intestinal catarrh, in which this remedy, combined with other simple hygienic measures, is the best cure. While hot water, taken as its advocates advise, is capable of doing harm, it will do good in so far as it discourages the use of tea and coffee. We are advancing toward a time when for each carefully-diagnosed group of cases there will be a scientifically adapted diet.

In illustration of these views, Prof. Pepper proceeded to give, in detail, several cases of great interest, in which patients suffering from severe disorders were greatly benefited, chiefly by attention to dietetics. One of his cases was a woman of sixty-five, with all the symptoms of fatty degeneration of the heart. Noticing that she had steadily increased in weight during her sickness, and was very fleshy, he put her on a reduced diet, and with proper medication effected entire relief of the symptoms in about nine months, during which time her weight decreased from one hundred and sixty-five to one hundred and forty pounds.

Systematic reduction is to be instituted only when symptoms clearly indicate it. When reasonable reduction of diet fails to produce a marked diminution in weight, the patient has probably not too much weight. When body weight falls rapidly, even if symptoms subside commensurately, check it early to avoid debility. Care must be taken in reducing weight, lest a marked reduction might favor the development of some latent morbid tendency, such as tuberculosis, cancer or scrofula.

A reaction has commenced against the indiscriminate stimulation in disease advocated by Todd and his followers. In acute disease, to push stimulants and concentrated food beyond the power of the patient to assimilate, puts an additional burden upon his already weakened system. In chronic diseases, restoration of power, relief of symptoms, etc., can only be accomplished by thoroughly adjusting the diet and hygiene to the altered conditions of the state of nutrition, and then, as far as possible, directing our remedies to the actual indications.

Cereals.—With regard to the much-debated "bran-bread" question, the following is the practical conclusion arrived at by Drs. Randolph and Roussel, in their valuable paper on the nutritive value of branny foods (*Obstetric Gazette*, Aug., 1884):

"That inasmuch as in the bran of wheat, as ordinarily roughly removed, there is adherent a noteworthy amount of the true gluten of the endosperm, any process which in the production of wheaten flour should remove simply the three cortical protective layers of the grain, would yield a flour at once cheaper and more nutritious than that ordinarily used."

If the whole wheat is used, it should be ground very fine, as the harder envelopes are very irritating, and it is well to remember that for sick persons with any bowel complaints bread must be used entirely without bran. Dysenteries have been found most intractable, merely from attention not being directed to this simple point. It is all the more necessary to insist upon this, as whole meal bread has been much recommended and used of late.

In the selection of a bread for diabetics, it must be borne in mind that the production of a pure gluten is not possible by anything short of a chemical process, and even if such a flour could be prepared, it is doubtful whether it would be palatable or inexpensive enough to become an article of commerce. In some gluten flour the percentage of starch, according to the analysis of Prof. Leeds, has been diminished by nearly one-third, while that of gluten has been more than doubled, as compared with common flour. It is probable that no more highly nitrogenous flours exist than those made by some of these processes.

The nitrogenous matter of wheat consists mainly of gluten, albumen and vegetable fibrin, that of oats in avenin. Wheat and oats are poor in those soluble albuminoids which abound in barley. On the other hand, the poverty of barley in coagulable, glutinous and albuminous matter, renders it comparatively unfit for bread making. But the important fact remains that barley is best adapted for malting because it yields a larger quantity of diastase than any other kind of grain. Brewers and distillers are in the habit of availing themselves of the diastatic powers of barley malt, thus not only saving themselves the expense of malting, but enabling them also to substitute cheaper unmalted grain in the manufacture of ale, beer, etc. The Japanese employ barley malt in like manner, mashing it in similar proportions with unmalted rice, millet and other native cereals, converting the starch thus supplied into grape sugar and dextrine, which they make use of as substitutes for sugar and syrup derived from sugar cane, in the manufacture of many kinds of confectionery. It is a comparatively cheap product, less sweet than articles of this class prepared from cane sugar, but still of pleasant flavor, very wholesome and nutritious. By diastase is meant a peculiar ferment or substance, having the power of resolving the starch molecules into more diffusible bodies of the sugar and dextrine class.

XUM

So long as the salivary and pancreatic secretions are normal in quantity and quality, these juices supply sufficient diastatic power for the conversion of the starch contained in bread, potatoes, rice, and in fact in all kinds of amylaceous food, which constitutes so large a portion of our daily diet. We know that in infants under three or four months old the saliva has feeble diastatic power, and it is almost certain also that the pancreatic juice is inert. Hence it appears certain, that while it cannot be said that this power is wholly wanting in sucklings, it is yet insufficient for the digestion of sensible quantities of starchy food. This being so, it is obvious that farinaceous articles are unfit food for young infants, unless artificial means are used to assist their digestion.

With regard to older children and adults, we know that inability to digest starchy food is a frequent cause of diseased conditions dependent upon defective nutrition. In such cases the largest constituent of important articles of diet such as bread, potatoes, etc., passes the bowels unchanged, or, undergoing acid fermentation, acts as an irritant to the stomach and bowels, causing flatulence, diarrhœa, etc. But the greatest loss sustained by the system is the consequent deprivation of carbohydrates.

Carbohydrates, as well as hydrocarbons (fats, etc.) are only of late beginning to be estimated at their true value in the nutrition of the body.

Later investigations have incontrovertibly proved that Liebig erred in restricting the office of non-nitrogenous food to the production of heat. Through the extension of the doctrine of the conservation of energy it has been determined that force is readily transmitted from one form into another, and that the forms of force bear a fixed and quantitive relation to each other. In the carbonaceous food we consume we find the chief supply of material for manifestations of force, whether muscular, nervous or glandular. Carbonaceous material is no more restricted to generation of heat within the body than the use of coal ends with the production of heat within a steam boiler. By the combustion of the coal, heat is produced, also motion, light, electricity.

That part of carbonaceous food not immediately required for the production of force is stored within the body, chiefly in the form of fat, which, whether derived from this source alone, from the splitting of albuminous matter, or taken primarily as food, by reason of its relatively large proportion of carbon, as well as hydrogen, destined to undergo oxidation, constitutes a very ready source of power. The relative quantities of carbohydrates and nitrogenous matter in wheaten flour may be assumed to represent the comparative offices of this substance in the nutrition of the body. One hundred parts of flour from good American wheat yield from ten to fifteen parts of nitrogenous matter and sixty-eight to seventy parts of carbohydrates. The potato contains even a larger proportion, yielding ten parts of starch to one of albuminous matter. It is, therefore, readily seen that faulty digestion of starchy food is an evil which deserves as much of our attention as the indigestion of albuminous matter. In the latter case pepsin and various acids are largely and effectively employed, while almost unlimited diastatic power for the digestion of starch is at our command in the diastase supplied by barley malt.

The non-digestibility of pure gluten in the human economy, as well as the fact that it attains its greatest nourishing properties when mixed with other nutritive substances, has now been established by chemical research. It becomes most easily digestible when mixed with albuminous portions of vegetables. According to the *Allgemeine Muehler*, the substance which is obtained by washing the dough of wheat flour is, in fact, such a mixture as, being dissolved in alcohol, can be separated into its several elements, while at the same time the gluten contained therein is not dissolved. Pure gluten is perfectly yellow, tastes like balsam, and has a peculiar odor, is very tenacious and elastic, is not soluble in cold water, and contains from fourteen to sixteen per cent. of nitrogen.

Nourishing Bread.—Peas, beans, lentils, vetches, and all the seeds belonging to that class used as vegetables, contain rich nourishing matter, in the same proportion as the best grains. The special nourishing azotic matter found in grains, as gluten in the cereals, albumen in the egg, casein in milk, musculin in meat, differs in those seeds, according to the kind, from twenty-four to thirty-one per cent. ; the fecula and its derivatives, the dextrine and glucinum, from forty-nine to fifty-nine per cent.; the fat phosphorated in one part from 2 to 2.8; the mineral matters from 2.1 to 3.5 ; the cellular matter forming the weft of the seed is similar in its chemical composition to the fecula and dextrine, from 1 to 3.5 ; and lastly, the water, from ten to fifteen per cent. These seeds are therefore very nourishing food. It will be of great value to know that the juice of these seeds, when cooked, contains the same rich aliment. It is only necessary to take care that peas, beans, lentils, etc., are not to be put into boiling water, as that would cause them to harden instead of soften, and prevent a solution of the vegetable. The water must contain as little lime as possible, and the vegetable must be put into it before it commences to heat. Legumens are especially valuable on account of the peculiarity of having the richest phosphoric parts of all substances in the group of albumens which form for mankind the complete aliment for

the constitution, as well as for the nervous system. Especially is such food nourishing to the brain.

Comparing grains with legumens, we find that the former contains fifteen per cent. of the albuminous azotic substances, similar in their constituent parts and nourishing qualities to the albuminous fibrin, casein, musculin and legumen. The principal albuminous substance of grain is gluten, called also fibrin of gluten, or vegetable fibrin, in the same way as the legumen has been called vegetable casein. The gluten in the cereals represents the legumen of peas, beans, lentils and other seeds of the same vegetable kind. These two substances are considered to be of the same nourishing value, except that the legumen is richer in phosphorus than the gluten. The grain contains 60 per cent. of fecula, 7 of gluten, 1.2 of fat —of which one part is phosphorus, similar to the legumens—1.6 of mineral matter, 1.7 of cellular matter, and 14 per cent. of water. Thus we see that the proportion of nourishing matter in the leguminous seeds is from 24 to 31 per cent., while the nourishing substances of grain do not exceed 15 per cent. From this we may infer that bread made from the meal of peas, beans or lentils would be more nourishing than our bread made from grain. So says the *American Miller*.

Nervous Indigestion.—In referring to indigestion, due to mental strain and worry as they affect the digestive organs, Dr. Milner Fothergill (*Medical Record*, Sept. 15) makes some statements which, though somewhat in variance with the views which it has been customary to hold on this subject, are nevertheless sufficiently rational to commend themselves to the thoughtful care of the physician. The lean and hungry man has ever been regarded as the type of the brain worker, including the conspirator, while he of the rubicund visage, indicating a well-fed man, has ever been looked upon as the man of easy mind. Such generalizations are broad and true, but the subject admits of closer handling in the light of the present day. It may be well for practical purposes to regard the body as charged with a definite amount of nervous energy, the centering of which in any one particular part is at the expense of other parts. In this greatly striving age, the pressure of business absorbs so much of the daily store of energy that the digestive organs are robbed of much of the *vis nervosa* that belongs to them, and are thus only capable of digesting light food. Of old, when anything uncommon had to be done, a good foundation was laid by a substantial breakfast, something in excess of the wonted fare. This was very well for men who were out in the open air, in the chase, or war, but it is not a safe practice at the present time, except with those whose digestive organs are unimpaired and retain much of their primitive Anglo-Saxon capacities. The rule of the present day is rather in the opposite direction, namely, to have a very light meal after any special demand upon the system, possibly with some alcohol, though on this last the right of private judgment is brought to bear more than on any other matter connected with health. It is, moreover, bad practice, under our present modes of life, to close a hard day of labor with a full meal. A light meal, and a little wine, as Timothy has wisely counseled, are the proper methods of meeting such an emergency in our day. What can be digested without drawback under ordinary circumstances, will not be satisfactorily digested when the system is exhausted, either by bodily or mental toil.

The effects of acute emotion in upsetting the digestion are fully recognized. In fact, anorexia is set up, and the food which would not be digested is not taken. But we are still far from comprehending fully the more chronic effects of wearing care and anxiety, although the fact must be recognized that where the mind is greatly exercised, while the body is insufficiently exercised, the dietary must be regulated accordingly. The busy brain worker must learn to see that he cannot tax his system at will. If he will not be told, he must be made to comprehend the subject. He had better adopt the habits of an invalid in order that he may not become one. He had better take care before he breaks down than wait until he is broken down, and has to take care of himself with his working power crippled.

The preventive treatment of neurosal indigestion is quite as important as the palliative treatment when once established. The lines are the same in both, namely, to give easily assimilable food, rich in fat, and containing albuminoids, but in sparing quantities, to allow a proper time for meals and a sufficiency of sleep. In addition to this hygienic treatment, phosphorus may be given. Phosphorus and fat in combination are the food of the brain *par excellence*, and to a dietary rich in fat it may be well to add phosphorus in pills, or, better still, in the syrup of hypophosphites. Yet when all this has been done, and the latest lessons in physiology worked out by the chemist and placed at the patient's service by his physician, there comes that indispensable factor, which the patient alone can furnish, namely, the proper care of himself. The body demands its seasons of repose, and the man who preserves his working power the longest is he who does not add a night's play to a day's hard work, but who, after the cares of the day, spends the evening in quiet, intellectual pleasure, thus unbending the bow while adding to the store of knowledge. Instead of bolting his food, and then rushing off to the theatre, the billiard table, or other places of amusement, he

spends his evenings in the manner indicated, and retires at a seasonable hour to his cool bedroom, where in quiet sleep, he gives the jaded body and mind physiological rest.

It is a mistake to suppose that meat imparts strength under all circumstances. Constantly patients—not with primary indigestion, for that pretty well regulates matters for itself—suffering from malassimilation come under notice, who have been eating all the animal food they could get hold of, under the impression that this is the plan to adopt. They have studied the advertising columns of the newspapers, read of iron and quinine wine (an admirable tonic in mere asthenia or debility), and have added that to their meat dietary, but in spite of this they grow visibly weaker. In these cases the liver is at fault, and when this organ is not working well nothing will further derange it more certainly than a chalybeate. In these cases the albuminoids which reach the liver by the portal vein, are not liberated and passed forward as the serum and albumen of the liquor sanguinis, but are thrust downward as bile acids or lithates, to crowd the liver by their presence, the natural digestive powers being helped by artificial digestive agents to still further embarrass it. The attempt defeats itself.

The mal-products of assimilation find their way into the blood and act as toxic agents, enfeebling the mental processes, involving the mind in gloom, and depriving the unhappy invalid of all pleasure in life, until death becomes positively attractive. Such are the untoward outcomes of the delusive attempt to gain, or rather to regain, strength of mind and body by a highly nitrogenous dietary. Yet the proper treatment of such cases is met by prejudice, by preconceived opinions. Your wisely regulated dietary is described as "starving the patient."

Overwork, if Clifford Allbut is to be believed, and overcramming of meat, if others of equal authority are to be credited, have much to do in upsetting the liver first, and damaging the kidneys afterwards, to say nothing of the lithiasis, cholæmia and toxic oxalates which belong to this condition of secondary indigestion, while the relations of glycosuria to overtaxation of the nervous system are now well-recognized. This may be an unacceptable doctrine, but it is to be feared it is true and well-founded.

A scientific naturalist, who has made the subject a matter of careful investigation, says: "If a man ate as much in proportion to his size as a spider, a man weighing 150 pounds would require the whole of a fat steer for breakfast, the dose repeated with the addition of a half-dozen well-fattened sheep for dinner, and two bullocks, eight sheep and four hogs for supper, and then as a lunch, before going to his club banquet, he would indulge in about four barrels of fresh fish." When that point of development is reached, suggests the *Graphic*, it is probable that boarding houses will go out of style.

Dr. Little in *Journal of Obstetrics*, remarks: For twenty-one years I have been physician to the Rochester Orphan Asylum. Each of these years had witnessed deaths from enteric diseases until 1882. In the early summer of that year I said to the matron, feed your babes but once in three hours during the day, but give them water to drink as often as they will take it. The summer came and went, and when frost appeared I congratulated her on the good results of our plan. Not a child had died, and no serious case of diarrhœa had occurred.

"Yes," said she, "but it seemed cruel to feed these babes but three times a day."

She had actually carried out my instructions to the letter, as she had misunderstood them. Instead of once in three hours, she thought I had said three times a day. In the following summer the plan was carried out, giving the infants food once in three or four hours, according to the age, during the day, and an additional meal in the night if the child awoke and would not be quieted with a simple drink of water.

Major Allan Cunningham says: "There is a defect of eyesight common among the natives of India known as 'ratandhi' *lit.* 'night blindness.' Persons affected with this have either ordinary powers of vision by daylight or else powers so little less affected than ordinary as to feel no inconvenience, so that usually no defect is noticeable; while in feeble twilight their sight fails in the most extraordinary way, and in the dusk they become (in bad cases) practically blind. Of course there are all degrees of this affection, but the strongly marked cases alone are likely to attract attention. By medical men in India this affection is said to occur most among men living on a low diet, (chiefly of cereals,) and the palliative treatment is to prescribe a meat diet. This affection is rarely noticeable among Europeans in India, though I have sometimes noticed marked differences in clearness of sight among them also amounting to slight night blindness.'"

It is well understood physiologically why after the meal comes the bread, cheese, and dessert. The bread will supply additional dextrin and the cheese albuminoids; but if we direct our attention only to the stomach and to the chemical changes which are going on in it, it is not quite easy to see why bread, cheese, and dessert should be taken at the end of dinner. If we turn our attention to the circulation and the nervous system, and remember the effect which is produced upon them by the mastication and deglutition of savory food, we can at once see a good reason for the common manner of terminating a

dinner. In order to supply abundant gastric juice for the digestion of the food introduced into it, the stomach requires an abundant supply of blood, and the nervous system must be kept active in order to respond to the calls made upon it. The savory cheese, swallowed in small morsels, and the fruits, which strongly stimulate the nerves of taste, or nuts, which require considerable mastication, cause an abundant flow of blood to the nerve centres; while the frequent movements of swallowing stimulate the heart and increase the rapidity of the general circulation.

The practice of taking dessert has become an abomination through the agency of those who would tickle the palate to excess, and crowd into the stomach articles unfit to go there.

Thus, ice cream, water ices and the like, should never be taken as dessert, but rather if at all, should be taken on an empty stomach, and when the body is excited by heat as it is on a hot July day. The various puddings, pies, etc., etc., which are so commonly used as dessert, should be entirely abandoned, and the sugar omitted from the fruit we eat.

THE URINE IN CASES OF RENAL ABSCESS.

BY W. STORM WHITE, M.D., NEW YORK.

THE diagnosis of abscess of the kidney may sometimes be made from the examination of the urine, under the circumstances which are described in the following, but the conditions which we meet will frequently lead to the mistaken diagnosis of purulent nephritis, or even of pyelo-nephritis, although there have been no evidences of a pre-existing interstitial nephritis, and the examination must therefore be made with the greatest care.

Abscesses originate in many forms of diseases of the kidney, which may or may not discharge their contents with the urine. If the latter is the case, the urine will present no characteristics of their existence, but in the former instance there are certain structures to be found in the sediment which will aid us very materially in making the diagnosis.

The abscess may be single or multiple, varies greatly in size, and must not be confounded with those cystic formations which are frequently seen in the same situations, and which contain only urine or clear and transparent yellowish serous fluid.

These cysts usually result from the stoppage of the uriniferous tubules, not being necessarily dependent upon any inflammatory condition, while the abscess generally results from some acute inflammation with actual destruction of kidney tissue, which is the keynote in the discovery of its existence by the microscopic examination.

The diagnosis cannot be made from a single examination, but the case must have been followed from the period when the breaking down of the substance of the kidney commenced, and the progress noted from time to time.

In the smaller or in metastatic abscesses, the urine itself will not usually show any characteristics of their presence, but when the abscess involves a large portion of the kidney, its development and growth take a regular course, which can be briefly described as follows:

In the course of an acute nephritis, or as an exacerbation of one which is chronic, the occurrence of a renal apoplexy (with infarctus), or from traumatism, the elements in the cortical or medullary portion of the organ, or in both, become necrotic, the cellular elements undergo retrogressive changes, the tubules or tubules and glomeruli are no longer bound together, they break up, more or less hemorrhage occurs, and finally pus is formed. In this stage of the process, the urine will lead us to diagnose a destruction of the parenchyma of the kidney, which may as well come from suppurative nephritis as from the formation of abscess. The urine is slightly decreased in quantity, of high specific gravity, contains blood, pus and albumen, if the elements of the affected portion have access to the pelvis of the kidney. In many cases these appearances will be intermittent, and sometimes days or even weeks may intervene, during which time the urine may be perfectly normal, if there be no other diseased condition of the organ. This is especially apt to occur when the abscess has become chronic, as will be described further on.

The various elements from the substance of the kidney can only appear in the urine when there has been a rupture into the pelvis of the organ, as the tubules are too small to allow of their passage through them.

After this state of affairs has continued for a variable length of time, granulations are formed around the seat of the necrosis, and this results in the production of a pyogenic membrane, or in other words, of a true abscess, the contents of which will be pus and the detritus from broken-down tissue, and may or may not be stained by the coloring matter of the blood, depending upon the process of its formation.

When the abscess has become chronic, the discharge of its contents into the ureter may take place by either one of two quite different methods—it may be constant or intermittent, depending upon whether it has involved the pelvis of the kidney or not. 1. If a permanent opening has been effected into the pelvis, this structure may take on the same characteristics as those of the abscess, and if the ureters remain

open, the escape of pus will be constant, or the same result will be seen when the opening remains simply fistulous. 2. If, however, the pelvis is unaffected, the abscess may break into it from time to time, and the pus, etc., thus find exit. In the intervals between these ruptures, the urine may be quite normal. If the escape of pus is free, the patient may never present the symptoms of pyæmia, although death sometimes results from simple exhaustion, because of the great drain upon the general system.

The citation of a case may explain the method of diagnosis better than the mere statement of general rules:

Mr. W., æt. 74, was taken ill quite suddenly seven months ago, and complained of severe pains in the lower abdomen and in the lumbar region. Six months previous to this time, repeated examinations of the urine had been made, showing an acute cystitis, from which he apparently recovered, and was comparatively well up to the time of this last illness. The urine was now examined and found to be increased in quantity for the twenty-four hours, having a specific gravity of 1013, light in color, still having a smoky, reddish hue, and urea and the urates were in excess. The microscopic examination of the sediment showed large quantities of pus and blood corpuscles, fragments of uriniferous tubules, perfect glomeruli, other broken-down kidney tissue, a few hyaline casts, and much mucus. At intervals, the urine became normal, in respect to both its physical and its chemical characteristics. This continued for some three months, when the presence of pus in large quantities became constant, except when the flow of the urine stopped altogether, as it did several times during the last three months of his life. During the eight weeks before his death he discharged an average of from one to one and a half gills (250 to 375 c.c.) of pus daily, and finally died from sheer exhaustion. His case was one of simple abscess of the kidney, as there were no indications of purulent nephritis, pyelitis or of cystitis, which are the only conditions with which it could have been confounded, and because we had been able to demonstrate most clearly the presence of structural elements of the kidney in the sediment of the urine in the commencement of the affection.

To Prevent the Spread of Cholera.—If the excretions of cholera patients (says the *British Medical Journal*) be permitted to enter drains having a communication with the hospitals and neighboring houses, or to reach the water-supply, however disconnected, there will be undeniable risk. If, on the other hand, they be destroyed by fire, the danger, if any, will be reduced to a minimum This is a precaution which in all places should be adopted. If vigorously carried out, it would go a long way to restrain the propagation of the disease.

CLINIQUE.

NERVOUS EXHAUSTION DEPENDENT UPON CONCUSSION OF THE SPINE.*

By J. H. Carmichael, M.D., Springfield, Mass.

In beginning this paper, I can best outline its bearing and purpose by giving the history of a case at present under my care, and as it is one so well marked and characteristic that I think it will materially aid in the diagnosis of future cases if it is well analyzed.

Miss ———, aged 24 years. Nervo-sanguine temperament; fairly well developed. In the year 1880, while out with a party of friends enjoying the pleasures of the forest, in running over a descending slope of ground, slipped and fell, striking upon the sacrum. There was a flash of light in front of the eyes and severe pain through the spine and head for a moment; but very soon she regained consciousness only to find that she was "too dizzy and lifeless to walk."

She was aided by her companions to the boat, and carried to her home. For several weeks she felt lame and weak, but at the end of this time she commenced to have pain in the head, spine and lower extremities. The family physician was called and treated her with counter irritants, etc., for several months; then later by blistering, but all to no purpose. She continued to have the pain in the spine and extremities, which are also troubled with numbness. She walks with assistance, but carries herself very erect; cannot bend the spinal column without experiencing pain. She is very easily excited, having very little if any control over her nervous system. Precordial anxiety, cramping of single muscles, first in one extremity and then another, until she finds no rest excepting from the use of narcotics.

The pain in the spine is increased by movement or touch; but in a perfectly quiescent state she makes no complaint. There was marked analgesia of the lower extremities. The patient continued in much the same condition for several years, and was at different times under the care of several physicians of both schools. I saw her in June of last year (1884) and found the condition as follows: Upon my introduction she expressed her pleasure at meeting me, for she had heard so much about me she was sure I could cure her. In less than a minute she was in a tremor from head to foot, the whole muscular system being agitated. She placed her hands over her heart, lay down on the sofa and groaned with precordial pain. Her respiration was difficult, pulse beat

* This paper was written by me previous to the one that appeared in the February number of the *New England Medical Gazette*, and is offered for publication to substantiate my claim of independent thought.—*J. H. Carmichael.*

slow, weak and extremities cold. Aconite was administered and after several minutes she felt relieved. Examination of the heart discovered nothing abnormal. Upon placing my hand over the cervico-dorsal region, she said, "Oh, don't touch me there! it is very sore." Her last physician had said that "there was a slight angular curvature of the spine" at this point; but sight failed to corroborate the diagnosis. The precordial distress was of frequent occurrence, several times daily, and always brought about upon retiring for the night. To produce sleep, she was accustomed to take a combination of bromide of potash and chloral. Toward morning she had severe cramps of some muscle or set of muscles in the lower extremities. The narcotics were discontinued and avena sativa given in their place. This did very well for several nights; but the precordial pain continuing, I tried in rotation aconite, amyl nitrite, cactus, cuprum, lachesis, and finally succeeded with atropia sulph. $\frac{1}{75}$.

After the precordial distress was relieved, a severe pain followed the course of the left crural nerve. After several weeks' treatment, the pain disappeared here under tarantula, to be followed by severe pain in the eyes and head. She was constantly complaining of pain in some part of the body. This pain is very peculiar; it is attended by great hyperæsthesia, and at times she would not even allow you to touch the skin in the vicinity of the pain.

Her sufferings caused great anxiety on the part of her immediate friends, so much so that I was obliged, from time to time, to reassure them that this condition was not dangerous to life.

By keeping her out in the fresh air, by salt water bathing, by the use of such remedies as atropia, conium, ignatia, cuprum and tarantula, she has marvelously improved. She sleeps, her digestive organs perform their functions well, and she is generally comfortable. Here is an admirable case for an illustration of nervous exhaustion, dependent upon concussion of the spine. It was diagnosed as "cerebro-spinal meningitis," "spinal irritation," "angular curvature of the spine," and later as "hysteria."

Going again over the ground, we find as causes of concussion of the spine: falls or blows upon the spine—not necessarily such as would occasion a thought of a serious nature, but often simply slipping from a chair to the floor, or a step-ladder; a fall upon the ice; accidents caused by runaways, railway collisions, etc. The pathology is not well understood, for in simple concussion of the spine death rarely results. In such cases as have passed under the eye of the pathologist, nothing has been discovered excepting a slight hyperæmia of the cord or its membranes, or extravasation of blood in isolated spots; yet it is generally accepted as a fact that in cases like the above the cord suffers from anæmia.

Erb considers that "molecular disturbance is the chief element in concussion." The symptoms show that the functions of the cord have been more or less disturbed, for we have a set of symptoms varying all the way from exhaustion to complete paresis. We have muscular agitations, cramps of certain muscles, muscular weakness, mental inactivity, indigestion, constipation or diarrhœa, and disturbances of the circulation.

These tend to disorder the cerebral functions, and we have sleeplessness, irritability, finding fault with her attendants, physician, and all who come in contact with her. She is exceedingly emotional, and a slight disturbance is exaggerated and made the most of. She learns to watch every symptom, and is constantly brooding over her misfortune. Physical examination reveals a painful condition of the spine, with hyperæsthesia, unless the patient's attention is distracted, when the same amount of manifestation would not be complained of. The diagnosis is not always an easy matter, since an injury may produce an inflammation which, subjectively speaking, would give many of the same symptoms. A concussion may lead up to a myelitis and softening, but all such cases are attended by severe and continuous symptoms, while in simple concussion, without crushing or dissolution, we have a mere transient set of symptoms, much inclined to fluctuate.

To-day she has pain in the chest, which may continue a week, then crural neuralgia may substitute it, and later it may centre in the optic nerves or the supraorbital branch of the fifth. There is a constant change going on, from an inco ordination of nerve function. It may largely be due to injury of the sympathetic system of nerves and their ganglia, but how this disturbance is brought about remains a mooted question, yet the clinical fact remains to tell us of the invasion made upon this grand system of nerves.

The prognosis in concussion of the spine as to life is generally good; but the cases that fully recover their former health are rare, and unaccountable symptoms will return upon the least provocation to torment and harass the patient.

Many will remain in a state of chronic invalidism, needing the careful attention of the surgeon to make life endurable, while others will be able to travel, assist themselves, but with a frail constitution, ready to submit to the enemy upon the appearance of any misfortune, excitement or sickness, out of the usual routine of life.

The treatment of nervous exhaustion, caused by concussion of the spine, will be largely expectant. We must treat the symptoms as they arise by the in-

dicated remedies ; and as the symptoms are so varied any one of our numerous remedies may find a simile among them. Much help will be derived from adjuvants, and it is advisable to mention the most noteworthy. Wier Mitchell's treatment given in his work on "Fat and Blood," should be well studied, and will be most advantageous in those extreme cases of exhaustion where the patient is unable to take proper exercise. Massage with electricity here is of paramount importance in giving exercise to the muscular tissue, causing a wear and tear which calls loudly for increased nutrition to repair the waste ; consequently the appetite becomes increased, assimilation goes on with increased vigor, and, ere you are aware of it, the exhaustion of the patient is rapidly disappearing, and in an incredibly short time the patient is so far improved as to take out-of-door exercise, receive plenty of fresh air, travel and enjoy the diversion of scenery and change of air ; the mental tone being increased by one, and the powers of assimilation by the other. Electricity should be continued (preferably galvanism), as it stimulates the peripheral nerves, causing a more active capillary circulation, removing hyperæsthesia of the skin, etc.

To this, besides a good nutritious diet, such remedies as iron, zinc, phosphorus, coca and strychnia should be administered as needed.

If there is any inflammatory action of the cord or brain, exercise, iron, zinc, phosphorus and strychnia, as well as all forms of electricity, would be injurious, and therefore contra-indicated.

PSEUDO-MENINGITIS OF YOUNG DEAF-MUTES AND OF DEAF-MUTISM BY OTOPIESIS (AUDITORY COMPRESSION).

By Dr. Boucheron.

1. The majority of cases of deaf-mutism are acquired, and therefore consecutive to diseases whose nature and pathogeny must be known. Certain cases of deaf-mutism among very young infants are benefited by injections of air into the middle ear.

2. The pathogeny of this infantile deafness is the following: Obstruction of the Eustachian tube with diminished air pressure in the tympanum, resulting in compression of the auditory nerves and deafness. Sometimes there is irritation of the auditory nerves reflected to the bulb, producing meningeal and epileptiform symptoms. There is finally destruction of the auditory nerves.

3. With dogs, after artificial closure of the Eustachian tube, and examination under water of the tympanum, it is found to be empty of air.

The histological examination in a dog deaf-mute shows destruction of the auditory nerves.

Obstructions of the Eustachian tube do not always lead to grave deafness, because the aqueducts of the labyrinth are a safety value to diminish pressure in the labyrinth. The pressure is greatest if the aqueducts are narrow and obstructed.

4. According to the symptomatology we have described :

Non-febrile pseudo-meningeal otopiesis.
Febrile pseudo-meningeal otopiesis.
Simple otopiesis beginning suddenly.
Simple otopiesis beginning gradually.
Otopiesis immediately after birth.

To grave infantile deafness are added nervous symptoms : Change of character, lack of affection.

Generally the external ear is normal. In the beginning certain naso-pharyngeal catarrhs are most frequent.

5. The majority of hereditary or consanguineous cases of deaf-mutism appear to be due to an inheritance of naso-pharyngeal or tubo-auricular catarrhs. This deaf-mutism can to a certain extent be improved or prevented.

In certain cases at the moment of birth the air fails to penetrate the middle ear and there is an alteration of the nerves of the labyrinth *ipso facto*. In these cases, deaf-mutism is almost with the birth but not congenital. These cases are often seen in mountainous countries.

6. Old cases of deafness are almost incurable because of the destruction of the auditory nerves.

On the contrary, recent cases of infantile deafness are curable to a certain extent when the auditory nerves have not been from the first entirely destroyed.

7. The treatment should endeavor :

(*a*) To remove the rarefaction of air in the middle ear by insufflation of air in the Eustachian tube.

(*b*) To cure the Eustachian catarrh.

(*c*) To electrize the auditory nerves.—*Revue de Médecine*, May, 1885.

Salicylic Acid a Cure for Tic Douloureux.—Recently, a number of cases of tic douloureux had been sent to Prof. Nussbaum for the purpose of having an operation performed, and after a number of carefully instituted experiments, this great surgeon recommends a trial with salicylic acid before proceeding to stretching or to resection of the nerve. In all the recently-sent cases he first tried this remedy, and he found it in every one a radical cure. Not only a palliative effect, but really an utter disappearance of the painful disease was the result in every case. Especially in cases of rheumatic nature, Prof. Nussbaum is positive of having discovered in salicylic acid a cure for tic douloureux. He administered the drug in the following manner:

℞. Acidi salicylici, 0.2.....gr. 3 1-3.
Sodii salicylatis, 2.0.....gr. 32
M.—Ft. pulv.

Within twenty-four hours the patient takes from four to six of such powders.—*Munich Aerztl. Intelligzbl.*, 38, 1883.

HYSTERO-CATALEPSY.

BY ARTHUR L. ROOT, M.D., NEW YORK.

A CASE has recently been under my care which was so full of interest that, by the request of Dr. Guernsey (who saw the case in consultation), I have decided to write a short history of it, hoping that it may interest some of my fellow-practitioners.

Miss C., who is now 25 years of age, unmarried, nearly died from scarlet fever when a babe, and was left in a very weak condition, both physically and mentally; began to walk at two and one-half years, but did not talk until she reached the age of seven years, and has never been able to articulate plainly, owing to a malformation of the hard palate. Parents are sturdy, intelligent people, and enjoy good health, except that the mother is somewhat of an hysterical nature, and she has but one brother, who often has mild hysterical attacks.

My patient began to menstruate at 14 years of age, and has been perfectly regular with this function since that time. Has enjoyed fair health, attended school, but was unable to learn much from books, can read and spell moderately well, and write a good hand, but is unable to write a sentence. As the mother tells me, she invariably writes the words in improper order, or, as she expresses it, "writes the sentence backwards." She is entirely unable to count money or learn the value of the different coins, although she does many things well and converses upon ordinary topics well with the exception of the impediment in her speech. Has had, for some time, an unaccountable desire to marry, which her mother attributes entirely to the horror of being an "old maid" rather than the knowledge of any love or passion.

I was first called to see her on May 3, 1885, and found her in bed, complaining of severe pain in the head and over the whole abdomen, with paroxysms of severe shooting pain in the region of the left ovary. Bowels were loose, having moved several times within the previous twelve hours. Temperature 100°, pulse 110, pupils widely dilated, extreme nausea, and had vomited several times; found, by careful examination, that although she screamed with pain whenever her abdomen was touched, that by holding my hand upon it and getting her attention upon something else, I was enabled to increase the amount of pressure without evidence of causing pain, and also that I could not touch her suddenly anywhere without the same cry of pain. I recognized some local trouble of the digestive organs. Suspected some hyperæmia of the medulla oblongata and the base of the brain and prescribed accordingly. This same condition existed for about three days, when the appetite improved, nausea ceased, and the bowels assumed their normal condition, but other symptoms remained about the same. Extreme hyperæsthesia existing all over the body, but especially about the abdomen; pupils dilated (evenly); excessive headache, most severe in the occipital region. Temperature continued from 99° to 100° from day to day, and pulse slightly accelerated; patient grew melancholy and was easily brought to tears as her mother related her suffering to me. Had been using belladonna in connection with other remedies, and now added ignatia in alternation. After this state of things had existed for four days I was suddenly called to her, and found her in an hysterical convulsion, laughing and crying by turns, and at times assuming more of a violent nature, arms thrown about with great force, would seize a pillow and throw across the room, etc., but always keeping the recumbent position, and the muscles of the back soon became rigid, so that she was in a condition of semi-opisthotonos, fingers drawn into the palms of the hands, and the muscles of the face drawn into all sorts of shapes and contortions. While in this condition she could swallow as well as ever, and, after ten or fifteen minutes, succeeded in getting her attention upon some object, and she slowly came to herself again, but, during this process, talked of being in the grave, in a trance, etc., and after crying for some minutes, and passing a large quantity of pale urine, she was as rational as ever.

The general condition of things remained the same except that she now suffered with insomnia, and had two or three of the hysterical convulsions each day. I now gave her hyos. and ignatia in alternation, and sufficient bromide of potassium and chloral hydrate in equal parts, to produce sleep at night, but with no improvement. Bromide of lithium, gels., ergot, hell. and asafœtida were given, as seemed indicated, for several days, without any special improvement, when I was summoned in haste to the bedside of my patient, as she was supposed to be dying. I found that she had commenced by the usual method of hysteria, but had suddenly thrown her head back, with her mouth half open, and had no sign of life to the mother. I found, by moving the hands, which were quite rigid, that they stayed in any position I left them, and if I pointed a finger in any direction it would stay as left. In fact, she was now in a condition of catalepsy, but from the manner in which the convulsions came on, together with the previous history, we decided to call the condition one of hystero-catalepsy. The convulsions all assumed this type from now on. I was able to bring her out of the convulsions by any means which startled her, at first, such as throwing cold water in the face, etc., but always had to invent something new, as the same expedient did no good

the second time. At first I succeeded by tickling the soles of her feet, which, by-the-way, I have neglected to state, were in a cold, clammy condition all through her illness.

On the second day after the change in the character of the convulsions, she was given cuprum metallicum 3x, and ignatia, alternating every two hours, making no effort to bring her out of the cataleptic condition. Many days she was in this condition at least half of the day, but all the time her appetite was good and digestive functions normal, and menstruated at the regular period, as usual. About the fifth of June, or after she had been upon the last prescription about a week, she began to show signs of improvement, and from this time on improved steadily until I insisted, much against her will, that she must sit up for a while each day. This we commenced on the 7th of June, and about the same time her father promised her a trip in the country after she was well enough. She now made rapid progress, and on the 11th of June she seemed as well as ever, except a little weak, and all medicines were stopped. She has not had any return of the symptoms since, and now is apparently as well as ever.

SOME INDICATIONS FOR THE USE OF MEDICATED TABLETS.*

Baptisia, ½ to 1 and 2 minims. Fevers of typhoid type; patient imagines portions of his body scattered about, which he cannot put together; great dryness of the mouth and tongue; soreness all over the body; in bilious, gastric, enteric and septic fevers.

Baryta carb., $\frac{1}{10}$ to $\frac{6}{10}$ trit. Scrofulous affections; swellings and indurations of glands, especially with the aged; catarrhal affections, with liability to colds in the head and throat.

Belladonna, ½ to 2 minims. Local congestions and inflammatory affections, with violent pains, coming and going suddenly; dilates pupils; great nervousness and restlessness, dryness of the throat; inflammation of brain and throat; sensation of a lump in the throat; dry, tickling cough; in scarlet fever and erysipelas.

Benzoic acid, $\frac{1}{10}$ to $\frac{6}{10}$, trit. High colored and strong smelling urine; chronic cystitis; irritable bladder, with fetid and phosphatic urine; in bronchitis and chest affections of old persons.

Bismuth, met. and nit., $\frac{1}{10}$ to $\frac{6}{10}$, trit. In chronic gastric catarrhs; in diarrhœas following or accompanying intestinal ulceration.

Borax, $\frac{1}{10}$ to $\frac{6}{10}$. Nursing sore mouth, leucorrhœa, like white of egg; catarrhs of conjunctiva and other nervous membranes; in small wounds which ulcerate.

* Continued from page 81 of The Times.

Bovista, $\frac{3}{10}$ to $\frac{6}{10}$, trit. In skin diseases; itching pimples; irritation from washing; eczema of the backs of the hands, known as baker's and grocer's itch.

Bryonia alb., ½, 1 and 2 minims. In inflammations of serous and synovial membranes, in pleuritis, pneumonia, pleuro-pneumonia and rheumatism; in typhoid fevers; ill effects of "colds" and dampness; a dry state of the mucous membranes; dry tongue, constipation, thirst and aggravation on motion, a sore, tired, aching feeling over the whole body.

Cactus, ½, 1 and 2 minims. Diseases of the heart and blood vessels; great palpitation; oppression of breathing; constriction about the heart, feeling as if the heart were grasped by an iron hand, pressing headache in the vertex with menorrhagia.

Cadmium sulph., $\frac{1}{10}$ to $\frac{6}{10}$, trit. Syphilis, rheumatism and gout; maculæ corneæ; sphere of action imperfectly known.

Caffein, $\frac{1}{10}$, trit. Cerebral congestion, flushed face and nervous excitement; obstinate sleeplessness; great reflex excitability, in different forms of headache, with the above symptoms.

Calabar bean, ½ to 2 minims. In tetanus, chorea and allied nervous disorders; topically in ophthalmic surgery for its influence in contracting the pupils; there are no well established characteristic symptoms calling for its use.

Calcaria carb., $\frac{1}{10}$ to $\frac{6}{10}$. In strumous constitutions, in fat subjects with fair skin and blue eyes, in children with open fontanels; slow development of bone; difficult dentition; sweating of the head; large abdomen, cold, sweaty feet; sour smelling excretions, glandular enlargements; diseases of the bones; rhagades from working in water; small wounds suppurate and do not heal; a tissue remedy.

Calcaria jod., $\frac{3}{10}$ to $\frac{6}{10}$, trit. When the indications point to the lime salts, with symptoms calling for iodine; especially glandular enlargements; chronic bronchitis of scrofulous children; swollen cervical glands; dry cough.

Calcaria phos., $\frac{1}{10}$ to $\frac{6}{10}$, trit. A tissue remedy; mal-nutrition and defective cell growths; anæmia from growing fast; rapid child-bearing; prolonged nursing; excessive menstruation; in chronic discharges; in rachitis; bad effects of town life, including brain fag.

Calendula, 1 minim. A beneficial influence over wounds favoring cicatrization; promotes the healing process in wounds, ulcers, burns, and other breaches of surface.

Camphora, $\frac{1}{10}$ to $\frac{6}{10}$, trit. Asiatic and sporadic cholera, especially in the first stage; blue, cold, shrivelled skin; cramps in the calves; strangury; great prostration, coldness, anxiety; all these symptoms occurring before the vomiting, purging and

cramps have set in; mania and great nervous excitement.

Cannabis indica, 1 minim. Intense exaltation of all the senses and emotions; distances seem infinite and time endless; dual consciousness; headache, and dryness of mouth and throat; useful in headaches with the characteristic head symptoms; in catalepsy, and in certain forms of insanity.

Cannabis sativa, 1 minim. In gonorrhœa, after the most urgent symptoms have passed; strangury, bloody urine; hemicrania, with too copious menses.

Cantharides, ½ to 2 minims. In inflammations of the genito-urinary tract; strangury, bloody urine; violent burning pains; hemorrhages from mucous membranes; petechiæ, carbuncles, typhoid fevers; scanty, high-colored, albuminous urine; great excitement with increased sexual desire; in erysipelas, in diphtheria, in burns.

Capsicum, ½ to 2 minims. Burning in alimentary and genito-urinary tracts; inflamed throat; atonic dyspepsia, especially in drunkards; tenesmus of bladder and rectum; dysentery; throat coughs; morning vomiting of drunkards.

Carbo. veg., $\frac{1}{10}$ to $\frac{6}{10}$, trit. In dyspepsia, with acidity and flatulence, especially in old people; in non-febrile adynamia with blueness and coldness of the skin; especially in the aged; and in advanced typhus after the temperature has fallen.

PUERPERAL MASTITIS.—In a recent number of the *American Practitioner*, Prof. Parvin contributes a very excellent article on this subject. Among the causes of inflammation of the breast he specially calls attention to the prevalent fissure of the nipple. For fissure the French use the word *crevasse*, and it is very expressive, for the great gap which is seen in some cases just at the base of the nipple, a crescent-shaped gap which may go on increasing until the sinuses of the milk ducts are opened, or still more serious destruction of tissues occurs. Now, these raw and abraded surfaces, these lesions of tissue, open doors for the entrance of disease germs, and the lymphatics are there in ample number to transport the germs, not only to the superficial, but to the deep parts of the gland.

The popular notion is that retention of milk is a cause of mammary inflammation. In opposition to this view we have the facts observed in galactocele, and in inferior animals, as, for example, in those sluts and cats whose puppies and kittens are cast into the nearest stream or pond, or in the cow who strays off and is days without being milked.

In this connection, Dr. Parvin thinks that the customary practice of drawing the milk from inflamed breasts, in phlegmonous inflammation, "is evil, and only evil, and that continually."

In the way of prophylaxis, when the nipple, instead of being full rounded, is flat or almost cup-shaped, Dr. Parvin suggests to draw out the nipple by means of a bottle, in air exhausted with hot water. And then direct the mother to use traction on the immature nipple frequently every day.

The Professor holds, moreover, that the common application of astringent and stimulating washes, such as the various solutions of alcohol with tannin, and the like, are objectionable, because they interfere with the proper action of the sebaceous follicles of the structures concerned. Therefore, he directs a gentle daily washing of the breast, bathing the parts with a tincture of myrrh, or arnica; then smearing the nipple with vaseline.

After the confinement is completed, how soon shall we apply the baby to the breast? Dr. Parvin expresses the matter very clearly: "Let this application be made eight or ten hours after labor, and repeated once in six hours until the secretion is established, when the interval may be two hours at first in the day and four or five hours in the night."

Shall the infant nurse from the inflamed breast? Dr. Parvin says no, and we are sure that this is safe advice.—*Obs. Gaz.*

OPHTHALMIA NEONATORUM.—It is well known that excellent results have followed from Credé's prophylactic measures against purulent ophthalmia in new-born children, so that in the Dresden lying-in hospital this disease is very rare. Drs. Leopold and Wessel have made investigations for the purpose of proving whether this form of ophthalmia is due to a specific poison. The prophylactic measures were, therefore, suspended in the case of eighteen children. One of these was attacked by ophthalmia, and the mother of this infant had a slight vaginal discharge, in which, however, gonococci were found. On the ninth day of treatment, the conjunctival secretion was found to contain as many of these micro-organisms as at first. All the other infants remained free from ophthalmia, including several whose mothers were suffering from granular vaginitis, and no gonococci could be found in the vaginal secretions of any of the seventeen mothers. This seems to prove the specificity of ophthalmia neonatorum. Hence it would seem that either the prophylactic measures of Credé should be enforced at lying-in hospitals, or else that the vaginal secretions of every mother in such institutions should be microscopically examined.—*Arch. f. Gyn.*, Vol. xxiv., part 1.—*British Medical Journal.*

THE IDEAL MEDICAL SCHOOL.—It should insist upon an entrance examination is English, arithmetic, geography, history of United States, general history, rhetoric, English literature, Latin, French, German, physics, chemistry, botany, zoology, comparative anatomy and a thorough *practical* knowledge of "Anatomical Technology as Applied to the Domestic Cat."—By B. G. Wilder, M.D., (Harv.)

I would have an undergraduate course of four years, leading to the degree M.B. I would not have M.B. conferred on any one younger than twenty-three. He must have performed every surgical operation a number of times on the cadaver, must have taken charge of five cases of obstetrics. The instruction should be largely clinical, and in the various laboratories. In a word, I would have the M.B. course almost exactly like the four years M.D. course at Harvard. Any one could begin practice upon taking his M.B if he chose.

Before taking M.D. one should be twenty-five years of age, and have studied two years after taking M.B. The M.D. course should be largely post-graduate elective studies and hospital work. Before receiving M.D. he should have performed all the common operations on the living body, and have attended every available variety of cases in the different departments of medicine. He must have taken a thorough course in veterinary or comparative medicine.

The M.B. will be the general practitioner of the future. The M.D. will be a superior practitioner, medical professor and investigator.—FLAVEL S. THOMAS, in *N. E. Med. Monthly*, December 15, 1884.

THE PREVENTION OF CONSUMPTION.—I heard from a legal friend of mine, a few months ago, a clinical story which greatly interested me. The lawyer said that he knew a family who lived in an Eastern State, several years ago, who nearly all went into consumption. There were originally in the family twelve children. The man and father was a well-to-do farmer, and noted for natural good sense. One of the boys became infatuated with a consumptive girl and married her. In a year the girl died, and the boy came home with consumption. In time he died, and one of the sisters, who was most devoted to him, was the next victim. The disease progressed until seven of the children were buried The father had learned a lesson from observation, which has taken the medical profession centuries to learn, and when the father learned it he acted with the wisdom he had. After returning from the funeral of the last victim, the father remarked in the evening while standing with his back to the fire, "Well, mother, if another of my children dies in this house with consumption, it will be within a short time." The old man's words were ominous, for that night the house, furniture and all burned down. Fire is the great germicide and disinfectant. A new house was built and there was no more consumption in that family. The methods of preventing consumption are very clearly indicated. The germ has the power of multiplying itself, and can no doubt be transferred from one person to another. Doubtless the spores of the bacillus saturate the walls and furniture of houses, and in this way communicate the disease.

The consumptive patient, then, must be isolated, and the sputa destroyed by corrosive sublimate, or better by fire. No one should attempt the entire charge of a consumptive patient as nurse, and no one, even in the best health, should visit a consumptive patient, at least to remain for any time exposed to the contagion.

The chief cause of the great prevalence of consumption is the lack of fear of the disease on the part of the public. The people generally do not know that the disease is contagious, and the reason they do not know it is because the doctors have been mistaken about it.

THE TREATMENT OF SPRAINS BY THE ELASTIC BANDAGE.—This method of treating sprains has recently been recommended by Mark See. It is the only method which fulfils the two indications: 1. To cause as rapid absorption as possible of the blood extravasated around the joint (a lesion which controls all the other symptoms, such as pain, swelling, difficulty of movement, etc.). 2. To favor cicatrization of the torn ligaments and ruptured parts by complete immobilization. The bandage should be applied to the skin itself, care being taken to fill up the flat and depressed places with wadding, so as to give a uniform surface around the joint for the bandage to act upon.—*Revue de Thérap.*

NON-VESICATING CROTON OIL —It appears to have been discovered by Mr. Harold Senier, of the London Chemical Society, that when alcohol of the specific gravity of 0.794 to 0.800 is added to croton oil in the proportion of seven or more volumes to six, the oil separates into two parts—one of them (the vesicating oil) dissolves in the alcohol, and remains soluble in alcohol in all proportions; the other (the purgative oil) separates, and is then found to have become insoluble in any proportion of alcohol. This insoluble oil is said to be a safe and pleasant purgative, free from any undesirable action, in doses of one-tenth to one-half a minim, in the form of pills made with magnesium carbonate and extract of henbane as excipients.

DOES HEREDITARY SYPHILIS EXIST?—In a report of a clinical lecture on syphilitic sequelæ by Dr. Fessenden N. Otis (*Philadelphia Medical Times*) the following views of the lecturer are worthy of being transcribed: Mr. Hutchinson, generally conceded to be the greatest English authority on syphilis, distinctly supports the germ theory of syphilis, and carries it to the legitimate conclusion that the disease is confined in every instance to the individual organism infected, and hence that it is incapable of being acquired or communicated through hereditary transmission: In other words, that there is no such disease as hereditary syphilis, any more than there is an hereditary small-pox, and that in every case of syphilis the disease is acquired through contact with a disease-germ of syphilis in an organism previously free from that disease, whether it occurs in the ovum, the embryo, the fœtus, or in the adult. The mother must first acquire the disease; and it is only through the disease-germs of syphilis circulating in her organism that the product of conception can be infected before birth. It is undoubtedly the fact that much disease in fœtal and in infantile life results from pre-existing disease, the legitimate sequel of syphilis in the organism of the mother; but that any syphilitic disease proved to be such by its power to transmit syphilis has been communicated to healthy persons by infants conceived after the active or contagious stage of syphilis in the parents has passed, there is no well authenticated evidence to prove. And this stage has been shown, by ample testimony, not to extend over a period of three or four years.

A SIMPLE EXPEDIENT IN THE MANAGEMENT OF STRANGULATED HERNIA.—For the reduction of strangulated hernia after taxis has failed, Dr. S. H. Hurd, in a communication to the *Medical Record*, recommends the following plan, which appears to have originated several years ago with Dr. C. A. Stewart, of Chicago. It consists in dilatation of the constriction which produces the strangulation at the abdominal ring, by passing the finger along the inguinal canal, carrying the integument before it, until the constricting ring is felt. The finger is then gently insinuated into the opening, and, if the band of opposing fibres does not yield readily, gentle pressure is made against the upper border of the ring until it is felt to give way, when a resort to taxis again will ordinarily result successfully.

VACCINO-SYPHILIS EXPERIMENT.—(Editorial in *British Medical Journal*, May 13, 1884). With a desire to settle for himself the vexed question, whether vaccine lymph taken from a syphilitic person, if unmixed with the blood of the vaccinifer, does not contain syphilitic virus, and is incapable of imparting syphilis by its inoculation, Dr. Cory made, at intervals, four separate experiments upon himself with lymph derived from obviously syphilitic children. The last experiment was successful, and Dr. Cory had to endure all the pains and penalties of syphilitic inoculation. The committee appointed to investigate Dr. Cory's experiments, consisting of Drs. Bristowe, Humphrey, Ballard and Mr. Hutchinson, report that it is possible for syphilis to be communicated in vaccination from a vaccine vesicle on a syphilitic person, notwithstanding that the operation be performed with the utmost care to avoid the admixture of blood.

ANTIPYRIN.—Dr. J. Holland (*Practitioner*, May, 1885) says that in cases of chronic fever, such as we have in phthisis, it has no rival and should be given to adults in fifteen to twenty-grain doses every four hours

BROMIDE OF IRON.—I was led to use the bromide of iron in the hope that it might be found to exert a subduing effect upon that obstinate symptom tinnitus aurium. A woman of seventy, extremely sensitive to medicines, suffering from deafness and tinnitus, took three drops of a watery one-to-ten solution of bromide of iron in six ounces of water, a drachm three times for a dose. She returned in two weeks complaining that the medicine sent the blood to her head, though the tinnitus was less, and that she had to discontinue it.

I then thought I would give a second decimal made with water from the above solution, six drops to twelve ounces of water, same dose.

She returned after three weeks, saying the tinnitus was much worse; it overpowered her and prevented sleep.

But what we wish to draw attention to is her declaration that on getting up in the morning her face was, soon after beginning with it, a mass of crimson; her eyes ran with water, and her nose, tongue and mouth were horribly swollen and painful, so much so as to prevent her speaking.

The appearance now left, after the subsidence of the above symptoms, is that of a blotchy redness of the skin of the face, a true facial erythema, usually comprehended in our text-books under the term acne. When seen, she had been without medicine for three days; nevertheless the redness remained, and never before had she had facial eruption. —DR. R. T. COOPER, in *Monthly Hom. Review.*

ETHICS OF THE SKIN.—"The constant use of face powder," says Mr. Malcolm Morris (*International Health Exhibition Lectures*, 1884), "has precisely the same effect on the glands of perspiration as the overstraining of the voice has upon the throat of a clergyman or public speaker. With the continuous exertion to secrete moisture to lubricate the throat, the glands become exhausted and give out so small a supply that, if speaking be persevered in, an obstinate complaint termed clergyman's sore throat is the result. So with the glands of perspiration in the face. As the powder dries up the moisture, more and more is secreted, till the glands become at last unable to fulfil the unavailing task, and shrinking, produce the little chasms that give the orange-rind appearance that is but too familiar to all observant people. As on the petal of the flower, and on the wing of the butterfly, there is always a delicate down that no powder can simulate, and any excess of this is disease."

A NEW VIEW OF INEBRIETY.—Dr. T. D. Crothers, in a late number of the *Alienist and Neurologist*, asserts that inebriety belongs to the class of contagious disorders; and gives a number of cases establishing his views.

The instances he adduces are such as have generally been set down to the evil effects of bad example and association. Dr. Crothers very pertinently asks whether they may not be the result of an actual contagion, resulting in pathological changes of the nerve centres, and leading to inebriety with as little volition on the part of the sufferer as if he had an attack of measles or typhoid fever.

ALCOHOLIC INJECTIONS IN UTERINE HEMORRHAGE.—Dr. Hapgood (*British Medical Journal*) reports a severe case of uterine hemorrhage where the only remedy at hand was a bottle of whiskey. He promptly soaked a napkin in the whiskey, and introduced it into the uterine cavity, with the result of stopping the hemorrhage. Encouraged by his success, he has now used injections of alcohol in several similar cases, and with such good results that he recommends this treatment to the consideration of the profession.

HEART BEATS.—Dr. N. B. Richardson, of London, says he was recently able to convey a considerable amount of conviction to an intelligent scholar by a simple experiment. The scholar was singing the praises of the "ruddy bumper," and saying he could not get through the day without it, when Dr. Richardson said to him, "Will you be good enough to feel my pulse as I stand here?" He did so. I said, 'Count it carefully, what does it say?" "Your pulse says 74." I then sat down on a chair and asked him to count it again. He did so, and said, "Your pulse has gone down to 70." I then lay down on the lounge and said, "Will you take it again?" He replied, "Why, it is only 64, what an extraordinary thing!" I then said, "When you lie down at night, that is the way Nature gives your heart rest. You know nothing about it, but that beating organ is resting to that extent, and if you reckon it up it is a great deal of rest, because in lying down the heart is doing ten strokes less a minute. Multiply that by sixty and it is six hundred; multiply it by eight hours, and within a fraction it is five thousand strokes different, and as the heart is throwing six ounces of blood at every stroke, it makes a difference of thirty thousand ounces of lifting during the night. When I lie down to rest without any alcohol, that is the rest my heart gets. But when you take your wine or grog you do not allow that rest, for the influence of alcohol is to increase the number of strokes, and instead of getting this rest you put on a difference of something like fifteen thousand extra strokes, and the result is you rise up very seedy and unfit for the next day's work until you have taken a little more of the "ruddy bumper" which you say is the soul of man below."—*Gaillard's Journal.*

EPISTAXIS—HOW TO CHECK IT.—Dr. Henry Perdue, of Barnesville, Ga., plugs the bleeding nose with pieces of fat bacon, applied the whole length of the nares. He secures the plugs by means of string, and, if necessary, prevents them from falling out by a strip of adhesive plaster over the orifices of the nose. He gives particulars of three cases in which this method of treatment proved most successful when the ordinary plan of plugging and other methods had proved useless. These cases are only samples of others. He has yet to record a failure.—*Medical Press.*

THE BACILLUS OF INFANTILE DIARRHŒA, it has been announced by MM. Clado and Damaschino, at a recent meeting of the Société de Biologie of Paris, has been discovered. It is said to be about three times the size of the tubercle bacillus and curved or crescentic in shape. The numbers found are in proportion to the severity of the disease, and they disappear as the stools improve from green to yellow, as recovery takes place.

GALLIC ACID IN HEMORRHAGE FROM THE URINARY ORGANS.—In hemorrhage from the urinary organs, Dr. Beale, in the *Lancet*, recommends gallic acid in ten-grain doses every three hours. It may be administered in capsule or glycerine. It seldom disagrees in any way, and what is remarkable, considering the medicinal use of the remedy in times past, does not (according to Beale) produce constipation.

COCAINE IN TOOTHACHE.—A correspondent of the *N. E. Medical Monthly* states that in toothache, due to decay, the effects of hydrochlorate of cocaine are instantaneous in allaying the pain. The cavity in the tooth is filled with a small plug of cotton wool, which has been saturated in a two-per-cent solution of cocaine. A fresh plug is introduced as often as the pain recurs.

XUM

The New York Medical Times.

A MONTHLY JOURNAL

OF

MEDICINE, SURGERY, AND COLLATERAL SCIENCES.

EDITORS:

EGBERT GUERNSEY, M.D. ALFRED K. HILLS, M.D

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"*A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and* OUGHT *to be the* ONLY ACKNOWLEDGED RIGHT *of an individual to the exercise and honors of his profession.*"—Code of Medical Ethics, Amer. Med. Ass., Art. iv., Sec. 1.

Our practice is *not* "based on an exclusive dogma, to the *rejection* of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology and organic chemistry."

THE DEATH OF GENERAL GRANT.

IT is said General Grant believed his death would occur late in July or early in August. He had seized every moment which his strength would permit him to use to get his house in order, leaving a record in his own hand of his life's work, not only as a matter of history but as the only income he could leave his family. When the work which had been slowly but steadily carried on through weary hours of suffering was accomplished, we can imagine how like a friend seemed the Angel of Death as it slowly drew from the weary body the soul into its new life. From the first diagnosis of the disease there has been among those familiar with its character no hope of anything more than partial relief from suffering and perhaps a very little prolonging of life. The professional standing of the attending physicians was such as to leave no doubt of the correctness of the diagnosis and the disease itself was of such a character that we felt it would march right on to a fatal termination, almost unchecked save by the iron will of the patient. Medical skill and medical science did all, we have no doubt, they knew how to do. No one can say, I could have done better; but as a profession, one and all, we should bow our heads in humility and shame that the resources of our art contains no specific against this malignant disease.

WHO IS ORTHODOX?

THE old illustration of the shield, silver on one side and gold on the other, is very forcibly brought to our mind in the recent report of the Committee on Public Institutions, to the New York County Homœopathic Medical Society. The report closes with a word of advise based upon a false statement, but we are moved to forgive the false statement on account of the clearness, simplicity and classic beauty of the entire sentence, which we are inclined to think, can find but few equals even among the rich gems of English literature. "It seems proper," says the report, "that those members of the visiting staff who have publicly renounced homœopathy should give assurance that their practice will continue to be an expounding of homœopathic principles." We are confident our readers will agree with us that this is a solid chunk of wisdom set in the purest gold. We advise the society to continue this committee to the end of the year with the hope that the mine which yielded to the world this glittering gem is not quite exhausted of its wealth.

We were not aware that any member of the Medical Staff of the Ward's Island Hospital had either publicly or privately renounced homœopathy. Its entire staff claim to be physicians, and most of them have the frankness and honesty to confess, both in their practice and public utterances and associations, that medicine is many-sided, and that the gold, the silver and iron add to the beauty and strength of their shield. We respectfully suggest that the committee extend their investigations upon the subject of orthodoxy to the other members of the County Society, not forgetting themselves. As advice seems to be the order of the day, we advise them to imitate the tact of the old Baptist deacon up in Connecticut, less than a century ago, who was appointed a committee of one to investigate the character of a charming lady of the church against whom charges had been brought implicating her moral character. The good deacon, in his visit of inquiry, fell a victim to the blandishments of the fair lady. His report was a model of tact, a careful study of which may prove of value to the committee in future reports. "I have called," he said, "upon Sister ——, and thoroughly investigated the charges against her, and am convinced that she is as innocent and pure as—as I am myself."

XUM

DISEASES WHICH VISIT THE SAME PERSON BUT ONCE.

HAS the question ever been satisfactorily answered why a large number of infectious diseases make but one visit to the same person? Of course, there are exceptions to this, as to every other rule. People sometimes have scarlet fever, small-pox, or whooping-cough twice, but these cases are exceptional and very seldom occur. Diseases require a certain soil in which to grow and flourish, as well as vegetables and plants. Cholera microbes, for instance, only flourish in alkaline solutions. The presence of acid, even in a very dilute form, not only destroys them, but prevents development. Wherever cholera prevails, there you will find a very great diminution of ozone in the atmosphere and the consequent tendency to putridity and alkaline reaction in the blood and animal tissues. An interesting fact is given in one of the foreign journals of eight persons drinking water which had been accidentally tainted with the rice water discharges of cholera patients. Five died, but these were drinking men with impaired digestion, impoverished blood, and an alkaline condition of the stomach. The poison found just what it needed for a rapid development and a fatal termination. The other three, strong, vigorous, robust men, with rich blood and healthy digestion, showed no trace of the disease. In cholera, in typhoid and malarial fever and in a score of other diseases the same condition may exist in the system over and over again, rendering them liable to contract the disease whenever at the time they are exposed to the same influences. Hence inoculation for any of these diseases is only a safeguard during the lives of the microbes developed by the inoculation. The duration of this life Pasteur limits in cholera to six days. In yellow fever the time is somewhat longer, but in either case the protection is only for a few days, when they again become liable to the disease.

In inoculation for small-pox or vaccination for kine-pox we have a different state of affairs. Something is used up in the artificial disease—some element in the body which never, or but rarely, forms again, and without which it is impossible for the disease to be reproduced. If we could find out a similimum to all this class of infectious diseases, as we have in kine-pox to small-pox, might they not just as easily be prevented and the death ravages among the young, who are obliged to run the gauntlet once, become things of the past?

Bearing upon this point and full of instruction are the experiments of Raulin with *Aspergillus niger*. With a liquid which contained among other ingredients one fifty-thousandth part of zinc he could grow a uniform amount of *Aspergillus*. If, however, the zinc were omitted, the crop fell to one-tenth the previous amount, and if to the liquid one million six hundred thousandth of nitrate of silver were added the fungus would not grow at all. We might carry the illustration still further and show how in a host of cases the presence of a certain element, even in very minute proportions, would prevent or facilitate the development of formations which in their rapid growth might so absorb vitality and poison the blood as to be fatal to human life. Is it not possible, nay, probable, that in a certain class of infectious diseases of which we have spoken this element, once destroyed, is never reproduced, and the door is closed against the re-entrance of the disease, because the system contains no soil for its development?

We can hardly determine what practical good, after all, arises from the discovery of a cholera or yellow fever microbe. Possibly the good may be in the future and the discovery of these formations the first step towards their prevention or destruction. But the fact has been known long before the discovery of the cholera bacillus by Koch and their cultivation and habits watched by a host of careful observers, that where cholera prevailed there was a lack of vitality in the air, producing a peculiar condition of the system which rendered it open to the attack. We knew then as well as we know now that a strong, vigorous and healthy system with a normal condition of blood holds disease at bay, but when from whatever influences we get an alkaline reaction instead of acid, there is an impairment of vitality and a wide open door to the entrance of a certain class of pestilential diseases. Keep away the seed, and although the soil may be ever so well fitted for their growth, we are free from danger.

If the same amount of careful investigation had been directed to ascertain that element in the human system which renders every living being liable to one

attack of a certain class of infectious diseases as has been given to the discovery of the cholera and yellow fever bacillus, should we not be much further advanced in the practical work of our profession than we are now? We have in vaccination an almost sure preventive of variola. Might we not have in some newly discovered element a preventive to scarlet fever, measles and whooping-cough, forever ridding the world of those scourges of infancy and early childhood?

SEX IN GENERATION.

It is strange that in times past so little attention has been given to those great social problems with which the welfare of the human race is so intimately interwoven. A kind of fatalism, so far as these questions were concerned, seemed to pervade all minds. The union of sexes and the process of generation were something so sacred that any attempt to regulate them by scientific rules was considered almost sacrilege. The great question of matrimony, as a means of improving the strength and vigor of the human race, was the least thought of in forming the marriage contract and begetting children. An old college President, a man who for more than fifty years had stood in the front rank of the clerical profession as a close observer, an accurate and logical thinker, and an eloquent writer and speaker, remarked to us, in discussing this subject, he believed if law and public opinion did not stand in the way, that nineteen marriages out of twenty would be annulled at the expiration of a single year. In process of time the mutual antagonism which is so apt to spring up in the early months of an ill-assorted union may give place to a kind of endurance which becomes softened and perhaps brightened by the new ties which spring up in the family relations, or one or both looking upon the condition as hopeless, plod on with a dogged determination to endure until death breaks the bond. Every physician will recognize much of truth in the picture so graphically painted by the old clergyman, who saw in the lack of judgment, of common sense, and ordinary intelligence in the marriage union and begetting children the great obstacle in the advancement and final regeneration of the human race.

In true union there should be and there is strength. The wife and the husband give each to the other strength and both to their children physical and mental vigor. There is a law which governs all this as well as every other process of nature, the violation of which is more sad and more disastrous than the violation of any other law, because it has to deal with physical life and with the human soul. Push the process of child-bearing beyond what the mother's strength can bear, let her bring children into the world in such rapid succession that she has not the strength to give to them nourishment, and the father perhaps without the means necessary to their comfortable support, and the result is a broken and discordant family, a wife ruined in health, children without a mother's care and a home lacking those pure and harmonious elements which go to make strength and vigor. No family is well balanced without male and female children, and the question if, in begetting children, the sex may be controlled by the parents by observing certain known rules, is not only full of interest but of the utmost importance. A recent writer* has discussed this question with great fullness, supporting his conclusions with important facts drawn from the statistics of births and deaths among different cases in different States of the Union.

His theory is that to produce female offspring the male must be in a more vigorous sexual condition than the female; and reversely, to produce male offspring the female must be in a more vigorous sexual condition than the male.

Notwithstanding the author supports his conclusions with many interesting facts drawn from statistics and careful observation, giving us an exceedingly readable and instructive book, we are inclined to believe he has not yet completely solved the important question.

Some twenty years ago, our attention was directed, by a prominent cattle breeder, who was celebrated for the purity and excellence of his stock to the fact that he could so regulate the union of the breeders as to determine with tolerable certainty the sex of the calves. Early in the heat the result of sexual congress, in nineteen cases out of twenty, was a heifer, while if the union occurred in the closing days of the heat he obtained a bull. He asked the question if this rule might not prove true in the higher forms of

* "Controlling Sex in Generation," by Samuel Howe Terry. New York: Fowler & Wells, publishers.

animal life. It was certainly worthy of investigation, and from that day to the present, in a very large obstetrical practice, we have carefully noted the results. On the supposition that, as a rule, the ovum becomes impregnated during the three days preceding the time for the menstrual flux or within the ten days following, and counting two hundred and seventy days as the average duration of pregnancy, we have found, in a very large majority of cases, that where conception must have occurred during the three days previous the time for the menstrual flux or five or six days after there has been a female child, while in labors from the two hundred and seventy-fifth or sixth to the two hundredth and eighteenth day the result was a male child.

Nature has undoubtedly some law directing it in its formation of the sexes. We do not believe the secrets of that law have yet been fully unfolded, but we do believe that it should be more carefully studied and the people more thoroughly instructed in the physiological process of generation.

CANNED GOODS.

ATTENTION has been recently directed to supposed cases of poisoning from the use of canned goods. Dr. Cyrus Edson, of the New York Board of Health, an excellent authority on the subject, says he has no reason to regard the present methods of manufacturing canned goods as involving any danger to the public health. The *Medico-Legal Journal* says, after a careful report upon the subject, by a committee appointed by the Medico-Legal Society, while millions of millions of canned goods are sold annually in this country not a single properly authenticated case of poisoning from such articles has been detected. Canned goods have become such a necessity, especially in the mining regions, and to a greater or less extent in every part of the world, that the sensational statements frequently published are liable to create an unnecessary amount of alarm. They are now considered staple articles of food as much as flour or sugar.

THE American Medical Association is making a grand muddle out of its proposed International Medical Congress. It looks now as if the whole thing would be abandoned, and it had better be.

BIBLIOGRAPHICAL.

URINARY AND RENAL DERANGEMENTS, AND CALCULOUS DISORDERS. Hints on Diagnosis and Treatment. By Lionel T. Beale, M.D., Fellow of the Royal Society, and of the Royal College of Physicians; an Examiner in Medicine of the Examining Board in England, appointed by the Royal Colleges of Physicians and Surgeons; Professor of the Principles and Practice of Medicine, and formerly Professor of Pathological Anatomy and of Physiology, and of General and Morbid Anatomy, in King's College, London; Physician to King's College Hospital. Philadelphia; P. Blackiston, Son & Co., 1883. Pp. 356. Octavo.

We turn from a careful perusal of this work with the conviction that it is the most practically constructed, intelligently written, and readable book that it has been our pleasure to examine upon the subject of which it treats. It is really fascinating in its language and in the manner in which the practical is interwoven with the theoretical and the dry detail of chemical analysis. The treatment, both medicinal and dietetic, shows the result of keen observation and most careful individualization in the selection of the means to be employed. Our readers can make no mistake in ordering this book, as they are sure to be amply repaid, the well-known eminence of its author being sufficient guaranty of our assertion.

MYTHS IN MEDICINE AND OLD-TIME DOCTORS. By Alfred C. Garrett, M.D., Fellow of the Massachusetts Medical Society; Member of the American Medical Association; Member of the Boston Medical Society. New York: G. P. Putnam's Sons. 1884.

The author says "these chapters record medical history and the successive medical schools and sects; also the medical improvements along the ages, excepting the present—these being the gleanings of special studies in medical history."

In conclusion, he says, "all homœopathic physicians are cordially invited to lay aside their dogmatism and pathy, and come, if qualified, and join the great body of regular physicians, where they shall be honored; so that there shall be one body, one library, one faith and one practice," to which we say Amen!

Lea Brothers & Co., Philadelphia, issue the third edition of Prof. Frank Clowes', of the University College, Nottingham, England, very excellent treatise on "Practical Chemistry and Qualitative Inorganic Analysis." The author admirably accomplishes his design of furnishing a systematic, intelligible and fully equipped laboratory guide and text book. The gradual development of the subject, the easy and natural gradation from one step to another, the condensed formulæ and the practical form in which the analytical tables are arranged for convenient reference make a comparatively dry study full of interest and easily mastered.

CORRESPONDENCE.

A TRANSLATION OF THE REJECTED MOTTO FOR THE "CYCLOPÆDIA."

To the Editors of the N. Y. Medical Times:

THE *Rev. J. Williams Ab Ithel, M.A.*, furnishes the subjoined rendering of the Welsh *cynglyn*, published in the July number of this journal. The original is now reprinted in

order to facilitate a critical estimation of the Reverend's scholarship.

THE MOTTO.

"Yscerbwd mewn cwd, nid min call—a'i mawl,
Llyfr moliant bardd cibddall,
Anhawdd yw ei iawn ddeall,
Fe wna i ddyn a fo'n ddall."

TRANSLATION.

"A skeleton in a bag—the lips of the wise will not praise it,
The eulogistic book of a purblind bard,
It is difficult to rightly understand it,
It will do for a man who is blind."

I have been much amused at the private letter that my learned countryman sent me with the transcript of his translation. He writes:

"I am satisfied that my translation is strictly literal, and yet I am perplexed to conceive how such a 'motto' can be applicable to a work of which you have said it is 'the proud joint-effort of the two great English-speaking nations'"

And again, after re-asserting the fidelity of his translation, this honest but confused clergyman writes:

"For a time I was even ready to doubt my own sanity—yet my translation *is* correct."

I have sent him my hearty thanks and the assurance that no one who ever sees a copy of "the proud joint-effort" will question either his "sanity" as a man or his ability as a scholar.

SAM'L A. JONES.

ANN ARBOR, July 24, 1885.

OUR LONDON LETTER

To the Editors of the N. Y. Medical Times:

THE British Homœopathic Society held its concluding meeting of the session on Thursday last, July 2. The reply of the American Institute regarding the Cyclopædia having been received, it was decided that its offer should be accepted, the Institute subscribing for 400 copies of each of the first four volumes, the British Homœopathic Society becoming responsible for their production. When four volumes have been produced, the two societies will be free to make any other arrangement that may be deemed advisable.

The services were brought to a close by the retiring President's valedictory address. Dr. Dyce Brown is to be congratulated on a session of unusual activity having marked his term of office. A goodly number of members assembled to do him honor on Thursday. His successor will be Dr. Mac kenzie, who has just retired from his post on the staff of the London Homœopathic Hospital, on which he has served 35 years. Another change in the officership of the Society is caused by the retirement of Dr. Hughes from the Honorary Secretaryship. The work of this post Dr. Hughes has performed for a number of years to the great advantage of the Society; but he now wishes to devote himself entirely to the work of the Cyclopædia. Dr. J. G. Blakeley has been appointed his successor.

The cholera has taken firm hold in Spain. As many as 600 deaths in a single day has been reported. The gigantic ex periment by Dr. Ferran with his inoculation of "attenuated cholera virus," has proved a disastrous failure, and everywhere outside of Spain he is thoroughly discredited. In Spain itself his popularity is beginning to wane. According to observers on the spot his inoculations produce dangerous and sometimes fatal results. Severe phlegmonous inflammation destroying the use of the arm inoculated has been observed in many cases. Perhaps when people learn that chemists like Pasteur and scientists like Koch (who said at Marseilles last year that he was a "discoverer," and had nothing to do with the *treatment* of disease) are not the best persons to lead the practice of medicine, honest methods of clinical study will once more gain favor. What the physiological and chemical laboratories are likely to give us in the way of the treatment of disease, Dr. Ferran's experiments are a striking example.

In an interesting speech, the other day, Mr. Lawson Tait stated that in the patients on whom he had operated for gallstone, making a biliary fistula, they had passed all the bile they were making outside of their bodies with the sole result that they had grown fat. In Rutherford's experiment on the biliary secretion of dogs, he found that when all the bile was passed externally the animals grew thin and died. Mr. Tait has offered to Professor Rutherford and others to allow them—his patients having expressed their perfect willingness—to administer to them different drugs said to act on the liver and test their effect in that way on the *human* bile. These gentlemen declined this unique offer. It is the physiology of the lower animals which they regard as the best foundation for the practice of medicine.

Yours fraternally, JOHN H. CLARKE, M.D.

15 St. George's Terrace,
Gloucester Road, S.W., July 6, 1885.

REST ESSENTIAL TO GROWTH AND REPAIR.

To the Editors of the N. Y. Medical Times:

REST is an essential condition to growth and repair. Nature embodies this principle in the regular succession of night following the care-worn day—that, after the refreshing enjoyment of sleep, man may continue his labor in the delightfulness of a renewed existence. An Infinite Mind ordained the change of seasons, thereby affording a period of repose to every living and creeping thing that had been created. Accurate observations of the animal and vegetable world reveal the perpetual existence of rest as nature's therapeutics. All plants require and obtain it—in some countries by the rigor of winter, in others by the scorching heat of summer. Most Alpine plants enjoy an unbroken rest under the snow for several months, and are of very difficult culture in our mild and varying winters. The blue-water lily of Egypt has its period of rest in the hot season, when the various canals, in which it flourishes, become dry and their beds baked by a torrid sun.

Rest is eagerly sought by all lower animals in periods of suffering from injury or disease. In infancy the child that sleeps much, mostly thrives, and conversely the wakeful, restless child seldom displays the evidence of active nutrition. In adult life those who drop off to sleep quickly, anyhow or anywhere, and sleep soundly, undisturbed by active dreaming, are, generally speaking, capable of sustaining a greater amount of mental and corporeal exertion than those who sleep lightly and dreaming much, awake but little refreshed.

In reference to the etiology of various diseases of individual organs, it may be asserted that the disturbed conditions mostly originate in circumstances which deprive of that period of repose which nature requires for the performance of healthy function. The heart, overtaxed by constant emotional influences, or excessive atheletic exercises, becomes prone to various alterations in its structures. The liver, unduly stimulated by excessive potations or habitually overtaxed by a superfluous amount of food, gildes into disorganization. The kidneys, congested by exposure and alcohol, have the same tendency to structural deterioration.

The muscular forces of our bodies become weakened by prolonged exercise. The greatest amount of development is obtained by regular alternation of work and rest. The arm that plies constantly at the anvil never develops that degree of strength which is given by a systematic training at the oar or in the gymnasium. Actual experiment has proved that in a given number of years, the laborer cannot accomplish as much by working every day as by resting every seventh, illustrating the infinite wisdom in the decree "six days shalt thou labor." The brain of the business man of wide-spread mercantile affairs, occupied constantly with important calculations, or engaged in money transactions on a large and anxious scales without rest will become so hyperæmic as to produce sleeplessness, want of self-confidence, melancholia, hypochondriasis, paralysis and even insanity. Prolonged, concentrated thought or anxiety, whether in the household or in the counting room, will produce the greatest multiplicity of nervous disorders. The great nervous centres must have relief from disturbing causes, or else there is no restoration to health.

Rest is the underlying principle of vacations. The average physician knows well the value of a few weeks' relaxation to his patient and is ever ready to give the sage advice, but he is not much inclined to avail himself of the good counsel given to others. No profession is as fatiguing as his. While others sleep and enjoy immunity from business cares which the Sabbath and the holiday bring, he is actively at work. Some one is breaking into the spare hour that by an extra effort he has culled for himself. He is always living on a tension to please or to accommodate some client, or is putting forth an extra effort to bring back some sufferer to the beauty of health. His life is a continual self-sacrifice. Each day sows the seed for a busier to-morrow, till life becomes a treadmill and he oblivious to the urgent needs of his own body. The physician who allows himself a few weeks' vacation in riding, walking, fishing, shooting, or in any relaxation that excludes his professional duties, calls into activity the more or less latent or suspended function of the cerebral centres. While some parts of his brain are occupied with their appropriate functions of superintending muscular exertion, the intellectual is at rest, to work out its own recovery from fatigue.

The value of a year's professional work cannot be estimated by the number of hours. The celebrated Dr. Ringer always spends two months at Brighton, and claims he can accomplish more in the remanining ten than were he to labor unceasingly throughout the year. The men who do their best work in medicine, who have the largest and most influential patronage, who are the most distinguished and the pioneers of the profession, are men of vacations. "All work and no play makes Jack a dull boy," says the adage.

Other circumstances being equal, an ocean voyage affords to the physician the best opportunity of recuperation. It brings radical relief in escaping beyond the domains of practice, away from the wearisome afflictions and affections of men. The sea in itself is inspiring. There is no longer haste or pressure. One feels that he can be idle with a safe conscience, and lounge on the sunny side of decks, lulled by pure breezes and flapping sails. Nothing is feigned, nothing is artificial; feeling grapples with that which can never falter and imagination may spread his best plumed wing, never to outstrip the real. It gives pure atmosphere. The winds are no longer heavy and sick with malaria of lands over which they have blown. Here they range over the mighty pastures of the deep, to plunge and play with its rolling billows, and dip their pinions over and over in its healing waters till they are washed and winnowed by a glorious baptism. Man feels himself waked from a fevered sleep and experiences the return of a new life pouring through his system. It affords to him the greatest amount of variety and pleasure. To cut one's self off from terra firma and sail out over the restless ocean gives sensations and experiences of no little worth. The landsman can know nothing of the wildness and mercilessness of nature till he has been upon the sea. The earth, with all remembrance of it, is for a time blotted out. The world is the steamship, and ere its life becomes monotonous, the high bluffs of mellow England, or *la belle* France, break the horizon, and the traveller is lost to himself in contemplating the beauties and wonders of the old world.

Physicians who habitually live near the sea border should seek their summer change in the interior. The New Yorker who spends his summer at Newport or Long Branch does well, but he scarcely leaves the kind of air he lives in. It is fresher and clearer, but gives no radical and essential change. He who frequents the White Mountains, Western Massachusetts and Vermont does better, but he who sojourns along the St. Lawrence does best of all. There is not on the face of the globe such another sheet of water. Imagine a broad river, varying from three to four miles, fed by the great American lakes, by water that in its passage, has deposited all its filth and dust and comes after its tumble over Niagara, as clear as crystal, to the sea. Imagine this superb stream finding its sinuous way through a labyrinth of 1,800 islands, among which a man may sail for days without ever crossing his track, not a rod of dead water along its shores, and with not even a suspicion of malaria in the atmosphere above it. Imagine a summer climate in which the days are never hot and breezeless and the nights are always cool and bracing, and the evenings are never so damp as to make it necessary to sit within doors, and you have the conditions of summer life among the Thousand Islands. Fishing and sailing are most excellent, the excursions picturesque, the scenery delightful, and the rosy, long-lingering twilights enchanting. The entire Adirondack region, too, is full of popular resorts. Whether one puts his physical powers to the test in climbing mountains or drifting idly on the still waters, whether angling for the trout or hunting for the deer, or sitting by the camp fire drinking in that great stillness, he feels himself growing stronger with each inspiration of that healthful invigorating atmosphere.

There is a growing tendency among all classes to spend more of the heated term away from home, for purposes of health and recreation. Physicians should acquaint themselves with the topography and climatology of the various popular sections and resorts of our country and of Europe, as well, that they may meet with good counsel the many inquiries that are made by clients. Be not easily influenced by pamphlets and flaming circulars. A visit to the White Sulphur Springs is necessary to know the sort of malady that would be benefited by those varied mineral waters. Forget not that in advising a "change of air" there lies a responsibility not less than in prescribing medicine.

E. W. PYLE, M. D.

JERSEY CITY, N. J., July, 1885.

AN OBSTETRICAL PROBLEM.

To the Editors of the N. Y. Medical Times:

THE following case is interesting because an anomaly, also from a surgeon's point of view, for it shows what is being done in operative work successfully:

On May 5, 1884, I was requested by Dr. S., of South Boston, to see a case, with him, of suspected extra-uterine pregnancy.

The lady had suffered from uterine pains for several days, and Dr. S., fearing something wrong, called in Dr. P., who

diagnosed the abnormal pregnancy. Upon my visit an examination found the uterine cervix slightly dilated, with vertex presentation. Nothing abnormal. Left occipital, anterior position. The bones of the skull seemed unusually hard, and Dr. S. declared she had gone a full month beyond her expected time. I prognosticated a difficult labor. The labor progressed slowly, and at 10 P.M. Dr. S. applied the forceps. He was not successful at delivering the head, and as Dr. P. was within easy calling distance, called him. He arrived at 12 midnight. After placing the patient under the influence of ether, Dr. P., with great effort, delivered the child. It lived but a short time, was very large, with fontanels closed, the ossification of the bones being quite perfect.

May 6—I was again called, arriving at 12 M. Dr. S. gave me the above history of the progress and termination of labor. He also said, "the patient has a ruptured perinæum and, I fear, a urethral fistula, as I am unable to pass the catheter." Examination of the parts found a completely ruptured perinæum, extending through the sphincter ani, one inch up the rectum. There was also a rupture of the anterior vaginal wall, extending far enough so that I could pass my finger up, back, and upon each side of the bladder. The urethra was torn apart three-quarters of an inch from its external orifice. The patient was much prostrated, with a pulse of 120, and a temperature of 103° Fahr. I had no instruments at hand suitable to use in the case, so advised Dr. S. to meet me with assistance at 4 P.M. At this hour we met; the patient was anæsthetized, and, with a large Sims' speculum, the parts exposed. The laceration was terrible. The anterior wall was split nearly to its junction with the uterus; the bladder torn from its attachments anteriorly, the urethra divided, and, with the complete rupture of the perinæum, made the case appear at once as one of unusual severity. The general verdict of those present was, "The woman cannot live; she will die of septicæmia, if not from shock; and consequently useless to try and repair the damage done. The bladder could be aspirated until death closed the painful necessity."

My reply was, "Gentleman, while what you say about the case seems justified by its present aspect, my duty to this patient is to proceed exactly as though I thought she would live." Consequently I found the severed portion of the urethra, brought it forward, introducing a catheter through the external portion and into the bladder, uniting with catgut sutures the broken ends. The ruptured surfaces of the anterior vaginal wall were next trimmed and united by catgut, and the catheter kept in place by being tied. Next the rectal wall was closed by catgut sutures cut short. The next step was to close the perinæum. The patient was put to bed, bottles of hot water placed about her and quiet enjoined. Aconite 1x was given every hour.

May 7, 10 A.M.—The patient rallied well, and slept some during the night. Pulse 120, temperature 102° F. Urine has been drawn at regular intervals of three hours, simply by removing a cork from the catheter. Hot vaginal washes medicated with calendula have been used every six hours. I ordered a continuance of the aconite.

May 9—I did not see the patient yesterday, but Dr. S. continued the treatment of the day preceding. Temperature 103° F., pulse 120, a trifle jerky. I ordered two grains of quinine every six hours. Aconite 3x and kreasotum 4x every two hours alternately. The latter as a prophylactic against septic infection, which we feared. Milk and beef tea every two hours alternately. Vaginal wash the same. Bowels to be moved each day by an enema.

May 12—I saw her again. She was doing well. Temperature 99° F., pulse 86. A little uncomfortable feeling about the bladder, for which a solution of boracic acid was used, injected through the catheter. Continued the kreasotum 4x.

May 15—Dr. S. had examined the wound previous to my arrival, and said "the perinæum had not united." Examination showed the perinæum granulating, not having healed by first intention. Instead of removing the stitches, I twisted them a trifle tighter and left them in place. Pulse and temperature normal. Although the time for septic infection was not fully past, the most dangerous period has gone by. The vaginal washes of calendula were continued.

May 19—I called and found that union was complete. Removed the catheter and silver stitches of the perinæum. The patient was able to sit up by the 21st, with only a little annoyance from irritation of the bladder, from which she soon recovered, being as well as usual after confinement. The surroundings of the patient were such as would be considered to favor sepsis, yet she recovered without a symptom.

This case, like many others that are saved by timely interference, should teach us that we must not give up a case as lost until we have exhausted all means at command, and that we may be the instrument of salvation in the end.

J. H. CARMICHAEL.

SPRINGFIELD, MASS., July 23, 1885.

CAN CHOLERA BE AVERTED?

THESE considerations, to wit, that the disease has always been introduced by immigrants, and that it is not practicable to learn in advance what immigrants are dangerous in this respect, lead to the conclusion that during the existence of Asiatic cholera on the European continent, at least, the safety of this country can only be assured by enforcing a thorough system of sanitary supervision over all immigrant travel from the time of the arrival of the vessel in the roadstead to the settlement of the immigrant at his point of ultimate destination. Such supervision should deal not only with the person of the immigrant, but should embrace the thorough disinfection and purification of every article which he may bring with him. For this purpose the vessel should be detained long enough to establish a perfect sanitary condition of her entire *personnel*. The feasibility and the value of such a system of sanitary supervision have already been demonstrated both in yellow fever and small-pox. Although the study of Asiatic cholera is beset with difficulties, enough is known to formulate rational plans both of treatment and prevention. The disease prevails for several years in Europe before it reaches this country, and consequently there is ample time to prepare for it. All the poison of cholera is contained in the discharges from the stomach and bowels, and possibly the kidneys. The attack generally commences as an acute diarrhœa, with dark-colored discharges for several days before the characteristic rice-water discharges appear. Some ill-nourished and weak people succumb to the first stage, and excusable doubts arise as to whether it be true cholera or not. The primary colored discharges are just as infective as the more characteristic ones, but these are generally alkaline, which should be detected by the aid of litmus paper, while those of ordinary diarrhœa and cholera morbus are generally acid. The discharges in true cholera always abound in germs, so-called bacilli, and are easily killed by acids, and they thrive in alkaline fluids, and, naturally the stomachs and bowels of those afflicted with foul stomachs and bad digestion are the best places for their development, and it has been asserted that, under such circumstances, one germ will produce sixteen millions in twenty-four hours.

* Abstract from *North American Review*, for August. By Arthur T. Hills, M.D.

The mineral acids counteract the alkaline condition and act as antiseptics and disinfectants against the decomposing material, and quickly kill all germs or microbes. They can be given sufficiently dilute to be harmless, and can be used in quantities large enough not only to quench the thirst that tortures the cholera patient, but to fill and reach every portion of the bowels which have been invaded by the germs. Pepsine is also a good antidote. Dilute muriatic, nitric and sulphuric acids are all good, but the latter, especially in the aromatic form, is supposed to be the best. Dilute phosphoric acid may be used as a harmless prophylactic drink, and also as a curative remedy. Lemon juice is not absolutely reliable; gallic and boric acids are safe and pleasant remedies in quite large doses. Nedweksky found that a whole teaspoonful of laudanum would not kill the germs which swarmed in only two teaspoonfuls of choleraic rice-water discharges. Neither did nux vomica, ten grains of chloral, calomel, or quinine, nor any of the alkaline remedies, like chalk or bismuth.

No amount of impure water will cause true Asiatic cholera unless the germs of the disease have already got into it. But contaminated and polluted water will render such cases hopeless; it is quite as dangerous and injurious as unripe or unwholesome fruits and vegetables and spoiled meats and fish. Boiled or distilled water should be used. The alkaline mineral water may be allowed as long as absolute disease has not set in, but not afterward.

Reliable disinfectants and germicides for all cholera discharges and soiled clothes are now well known and are cheap. One pound of corrosive sublimate in 500 pounds of water is the best. This may even be drank with impunity by the wineglassful, and will kill all the germs in the systems of the patients, will disinfect all the clothing which is placed in it, and all the discharges to which it may be added, still it should be kept under the control of physicians and health officers. Cholera is a disease which may occur more than once. One attack does not confer immunity, hence inoculation cannot well prevent it. All the Spanish cases of inoculation were imperfect, as they did not produce symptoms of cholera, but only local symptoms and some blood poisoning from septic substances. Cholera is not a blood disease, but most distinctly a primary stomach or bowel affection. While the best wishes of physicians go with the inoculators, they are not very sanguine or hopeful of this method. The preventive and curative treatment with acids is far more rational, more securely based upon experiments and results, and has been successful enough to recommend it to every one; while it can be used with little trouble, or expense or danger by every person, physician and householder.

OBITUARY.

HENRY N. GUERNSEY, M.D., died at his residence, in Philadelphia, June 27, aged 68 years. Dr. Guernsey was born in Vermont, received his degree of Doctor of Medicine from the Medical Department of the University of New York, in 1842, and after practicing a few years in New York and Frankford settled permanently in Philadelphia, in 1856. In 1861 he was elected Professor of Obstetrics and Diseases of Women and Children in the Homœopathic Medical College of Pennsylvania. His lectures were so popular and attracted such wide attention that they were, in 1867, published in book form under the title of "Guernsey's Obstetrics." In 1871 Dr. Guernsey was elected Professor of Materia Medica in the Hahnemann Medical College of Philadelphia. His lectures have since been given to the public under the title of "Guernsey's Materia Medica." Prof. Guernsey was highly esteemed in public and private life as a man of close observation, of wide information in the various departments of literature and science, and, however much many of his friends may have differed from him upon some of the great medical questions of the day, all admitted the genuineness of his convictions and the ability with which he defended his opinions.

TRANSLATIONS, GLEANINGS, ETC.

THE NEUROSES OF THE GENITO-URINARY ORGANS.

BY PROF. ROBERT ULTZMANN, OF VIENNA.

Translated from the German by W. Storm White, M. D.

FIFTH ARTICLE.

FINALLY, enuresis belongs among the motor neuroses of the urinary apparatus, and usually occurs in childhood, disappearing at puberty. Under enuresis we understand the involuntary escape of the urine, normal in quality, from the otherwise normal urinary organs of children. This definition excludes all of those conditions which are associated with an increased desire to micturate and diseased states of the organs.

In earliest childhood, the urine and fæces escape without producing any subjective feelings, and the slightest contraction of the bladder or rectum is sufficient to produce the discharge, as there is a lack of resistance by the sphincters. It is only after the first year that the child begins to control the discharge from the bowels, the urine still continues to flow involuntarily, even when he tries to hold it back. The possibility of controlling the urine is not presented until he has reached the end of his second year, that is, after the first dentition.

When children over this age cannot retain their urine, yet have no disease of the urinary apparatus or abnormality in the urine, they are suffering from enuresis. This condition, however,can first make its appearance suddenly at a later period, especially when the child has been weakened by disease and appears very much run down in bodily strength.

Enuresis occurs either while sleeping (*i.e.*, at night), when it is called enuresis nocturna and is the most frequent form, or only in the day time, as enuresis diurna, after violent bodily exercise and muscular activity, as on going upstairs, laughing, coughing, etc.

When the urine is involuntarily voided at all times, the condition is called enuresis continua.

According to the occurrence of the enureses, they may be further divided into the continual, occurring regularly every day, and the periodical, or coming only at intervals.

The most different weakened conditions, such as anæmia, scrofulosis, rhachitis, etc., were formerly thought to be the causes, but this is not the fact in all cases. We not unfrequently see well developed, strong, rosy-cheeked children suffering from enuresis, and only a very small percentage of rhachitic and scrofulous ones are affected in this way. Others incorrectly give too sound sleep as the cause for wetting the bed. Most healthy children sleep so soundly that they can be taken out of bed, undressed and put back again without awaking, and still they do not suffer from enuresis. Parents very frequently complain to the physician that they always find the bed wet through, although they wake the child up two or three times during the night and compel him to urinate. In fact, it is wet through immediately after going to sleep, in many cases, though he has passed water shortly before. Trousseau, Bretonneau and Desault have not sought the

ætiology of this condition so much in any weakened state of the general system as in abnormal relations of the bladder and neck of the bladder.

Desault assumed that the cause of enuresis was a sudden and powerful contraction of the detrusors of the bladder, which were not sufficient to arouse him to consciousness out of sleep. This explanation of enuresis makes that form clear which is identical with urging to micturition, as it occasionally occurs in the course of cystitis, pyelitis and lithiasis.

A cramp-like contraction of the detrusors during sleep is very problematical when both the urine and urinary organs are normal.

Trousseau and Bretonneau claim that enuresis is a neurosis of the neck of the bladder. They are correct, according to their views, as they consider the neck of the bladder as the closing apparatus (sphincter externus).

Guersant assumed that there was a congenital weakness (arrested development ?) of the sphincters, but this will only explain a few of the cases. Other authors assume a hyperæsthesia of the fundus of the bladder or of the mucosa in general. By this they wish to convey the idea that the bladder can only contain a very limited quantity of urine, and when this quantity is increased the whole mass escapes. Lebert thinks that enuresis nocturna is caused by a certain degree of narcosis of the sphincter during sleep. The desire for micturating is not sufficient to arouse him, and therefore the bed is wet through involuntarily and without his knowledge. I agree with Trousseau and Bretonneau in as far as they consider enuresis nocturna as a neurosis. I assume that there is a want of accordance between the innervation of the detrusors and the sphincter, and that the sphincter is too little innervated. As this condition commences at birth and is perfectly normal till after the completion of dentition, its continuation after this time implies that these relations still exist in the patient. That enuresis is only due to an incomplete innervation of the sphincters is proven by the results shown after the application of an electrical treatment. There are cases where the first faradization is followed by a complete and permanent cure, and such a result can only be explained by supposing an innervation of the sphincter, and could never occur if there was any imperfect development of the sphincter.

Sex exercises no influence on enuresis, and although some authors claim that more boys than girls are so affected, it is only seemingly so. In girls, particularly when they have grown a little older, the parents try to conceal this unpleasant condition, and they also sometimes know that the enuresis usually ceases at puberty.

It is between the ages of three and ten years that children are usually afflicted with enuresis, although I have frequently had both girls and boys under treatment as old as 14, 15 and even 17 years. It has already been stated that a variety of enuresis can be caused by lithiasis (spiculated calculi), cystitis, pyelitis, onanism, and, in the female, by inflammations of the vagina, around the meatus ex. urethræ and in the urethra. Therefore it is always necessary to examine both the urine and the genitals of the patient in every case.

After having sufficiently examined the characteristics of the urine, we proceed to a most careful examination of the lower abdomen and genitals. We must try to determine whether the bladder is very full (from retention) or not by palpation, etc. Examine the opening of the urethra, and of the vagina in the female. Sometimes we find small excrescences (polypi) at the external opening in the latter, and if these are removed with the shears the enuresis usually ceases. Exploration with the sound is not always necessary, if the urine is found to be normal.

The therapeutics of enuresis may be of general or of local application. With weak children, a regular course is persued with quinine and particularly with preparations of iron, aromatic bath at 26° R., cold hip baths, or a mild water cure. Sojourn in the country or in the mountains, with fresh water or sea bathing, is sometimes of the utmost benefit. Belladonna and atropine are especially recommended by Trousseau and Bretonneau, who give 0.01 extract belladonnæ, or 0.0005 (or $\frac{1}{180}$ gr.) of atropine in the evening on going to bed. The greatest caution must be exercised in giving these to small and weakly children, but when they are larger and stronger the daily dose may be gradually increased until dilatation of the pupil is observed, and the treatment must be persevered in for months. Beautiful results are occasionally seen from the use of extract secalis cornut., as also from tinct. nux vomicæ.

The local treatment, however, still remains the best method. If the cause of enuresis is sought in a weakened condition of the sphincter, it is only logical that we should try to overcome it by strengthening the weakened part, and this is best accomplished by electricity. The former per cutaneous methods have shown no beneficial results, and the catheter-shaped electrode, as is used in the incontinence of adults, is not easily applied in children—they are too uneasy, and the introduction of the instrument, especially in boys, is hardly ever accomplished without injury to the urethra, and perhaps the development of urethritis and cystitis, that is, producing conditions which are certain to exercise an injurious influence on the enuresis. As this direct introduction of the urethral electrode is not easily accomplished in children, I have employed, because of surgical experience, indirect stimulation of the sphincter vesicæ from the rectum. It is a well known fact that the operations in the lower section of the rectum are frequently followed by complete retention of urine, and that there are cases of intense urging to urination and still none can be passed excepting when fæces are voided at the same time. This simultaneous contraction of the sphincter ani and sphincter vesicæ is the *rationale* of the therapeutic experience, and is sufficiently explained by the anatomical relations existing between the parts.

The nervi hemorrhoidales (the medius and the inferior), both originating from the plexus pudendalis of the sacro-coccygeal plexus, supply the lower portion of the bladder, the sphincter vesicæ, the sphincter ani externus and internus, and in the female, the vagina. It is, therefore, clear that an electric stimulation of the muscles of the rectum must be followed by contractions and strengthening of the sphincters of the bladder.

For this purpose, I use the ordinary Du Bois-Reymond apparatus, with an induced current. One pole is a metal rod as thick as a lead pencil and seven cm. long, set in a wooden handle, well oiled and shoved into the rectum. The other pole is an ordinary sponge bearer, and is applied on the raphe perinei of the boy, or in one of the natal folds of the girl. The stream must be very weak at first, especially with small children, or they will become frightened and nothing will induce them to continue the treatment. The intensity can be gradually increased until it is as strong as can be borne. The application is to be made daily, or at least every second day, lasting from five to ten minutes, the little patient lying on his back on a sofa. The treatment usually lasts four or five weeks, but may be longer if anything remains of the original complaint.

(*b*) THE MOTOR NEUROSES.—The motor neuroses recognized in the genital organs are pollutions and spermatorrhœa. By pollution is generally meant a copious discharge of semen which usually occurs during sleep at night, and is accompanied

by lascivious dreams and a stiffened penis. The discharge occurs in jerks with cramp like contractions of the muscles of the seminal vesicles and urethra (R. bulbocavernous). Spermatorrhœa, on the contrary, means a slight, drop by drop, or even continuous flow of semen, without any erection or particular sensations of pleasure. The flow only becomes copious after defecation or at the close of micturition.

According to this, pollution is the result of a motor neurosis of the genital apparatus, with cramp of the muscularis of the seminal vesicles, and spermatorrhœa, the same, with paresis of the duct. ejaculatorius.

The terms pollution and spermatorrhœa are generally confounded, and in fact there are cases in which both conditions exist at the same time, in which the patient suffers from spermatorrhœa and still occasionally has pollutions. As there are pure forms of each of these complaints, we must hold to the divisions above given. There are cases of pollution in which an escape of semen takes place only after stool or urination in the day time, as there are cases of spermatorrhœa which never complain of pollutions, but lose seminal fluid daily and often continuously.

Other authors divide them into pollutiones nocturnæ and pollutiones diurnæ, and designate as spermatorrhœa any discharge which is sticky, whitish or colorless, and is not from chronic gonorrhœa. This division is not available, because where there is so-called pollut. diurnæ we also usually find the escape of semen after stool and defecation, and, on the other hand, we cannot diagnose spermatorrhœa without a microscopic examination of the sticky, tenacious and turbid fluid which flows from the urethra. There is a secretory neurosis of the prostate (prostatorrhœa) which will give origin to a similarly appearing fluid, but which has nothing in common with it, as will be more fully explained further on.

Curschmann recognizes pollutiones nocturnæ et diurnæ and spermatorrhœa, discovering in spermatorrhœa the superlative of pollution.

Pollutions occurring only once in ten to fourteen days may be regarded as physiological, but if occurring much oftener they are pathological. Curschmann will not accept this view, but claims that pollutions may occur oftener and still be physiological if the patient feels strong or relieved on the following day. On the other hand, he views all pollutions as pathological which leave the patient tired, depressed and are followed by headache or a lessening of the mental capacities.

As the semen plays an important rôle in these diseases, we will briefly describe the anomalies presented by it.

Normal semen, as is well known, is a mixture consisting of the secretions of the testicles, seminal vesicles, prostate, and of other accessory glands of the urinary apparatus. The quantity voided at one time varies according to the period it has been collecting, and usually between the limits of from two to five grammes. It has a whitish color, similar to boiled starch solution, a peculiar, characteristic odor, and an alkaline reaction on litmus. Immediately after ejaculation, it is honey-like and can be drawn out into strings, but soon becomes gelatinous and stiff, after from five to ten minutes again returning to its thin, fluid condition.

If the spermatic fluid is placed in an *éprouvette*, in order to collect the sediment, we find that it will separate into two layers after the lapse of a few hours, and each of these are of equal thickness. The lower stratum is white, opaque, and consists of the cellular forms of the sperma in normal semen, and of spermatozoa. The upper stratum is turbid, translucent, and the microscope discovers in it merely isolated cellular elements and detritus. Under certain conditions we are able to determine the progenerative power of the semen from the thickness of the white layer composed of spermatozoa.

If a drop of this fresh fluid is placed under the microscope, we will see forms in active motion, which is as active as we will observe when we turn an ant's nest upside down with a stick. Beside this there are only single epithelial cells, sperma cells and a small number of fine granules. The spermatozoon consists of an oval or flattened pear-shaped, shoe-horn like head, and a long fibre-like extremity, which is divided into a middle-piece and a tail. The middle piece (body) and tail must be at least ten times as long as the head. The spermatozoa must be in large numbers and present motion at least twelve hours after being discharged. If the semen is allowed to stand longer than this we will find, on the second or third day, at first a few and later a larger number of transparent, rhomboidal crystals. When the crystallization is not perfect, the ends of the crystals are incomplete and rounded off. A. Bottcher takes them for albuminoid bodies, while others hold them as ammonio-magnesia phosphates. I once examined them and found phosphoric acid and magnesia, but could discover no ammonia.

As was mentioned above, the quantity ejaculated at once varies, and the oftener coitus is repeated in quick succession the less will be the amount ejected, until finally only a few drops will flow, accompanied by a feeling of pain. The more abstemiously a man lives in this respect the greater will be the quantity voided at one time. There are two opposite conditions, polyspermia and aspermia, which we can always easily differentiate.

Polyspermia, the ejection of a large mass of spermatic fluid at one time, is seldom observed, and I have investigated only one such case. A forty-year-old man, who was strong yet nervous, and suffered from polyuria, cysto-spasmus, and different neuralgic pains, complained that his drawers and the bed were wet through when he had a pollution, and that his wife claimed that he had urinated during coitus, as she had become so wet. I had him collect the discharge, and on measuring it, found the extraordinary amount of about fifteen c.c., although the patient said he had not been able to collect all of it. The spermatozoa were alive and moving. On allowing the sediment to form, I found that the fluid portion on top was increased in amount when compared with that of the white cellular zone.

Aspermatia or aspermatismus, the absence of sperma, is somewhat more frequent, and may be either permanent or only temporary. It is caused by either a mechanical obstruction (obliteration of the ductus ejaculatorius) or that its discharge cannot be produced by sexual excitement, whether it is secreted by the testicles or not, or that none is secreted. I have seen aspermatia develop in a married man after prostatitis suppurativa, and he was unable to produce semen during coitus, although he had been perfectly able to do so before his attack. I observed another case, a man twenty-four years old, having this complaint in a form which really belongs to the rarities. He came to me asking if he could get married; notwithstanding the fact that although he was able to have coitus, he had never yet had any discharge resulting either from the act or from pollutions. At first I rather doubted the patient's word, but was afterwards able to corroborate it by long observation. The young man had never had any venereal disease, his genital organs appeared entirely normal, the sound encountered no obstruction in the pars prostatica. I tried faradization of both testicles without any result. In spite of repeated attempts by cohabitation and other means of sexual excitation, he was not able to produce semen. Several months later he wrote to me stating that the condition still

continued, and he has lately sought my professional aid again. From the fact that the genital organs were perfectly normal in this case, and that the young man had reached his 24th year without having had either pollution or other discharge of semen, although he had made repeated attempts, I believe this to be a case of absolute, permanent aspermatismus. I will not venture to assert, with Schulz, that in such a case there is a total loss of irritability in the reflex ejaculatory centre.

Semen is sometimes colored bloody, reddish-brown or yellow, from the presence of pus, and both these appearances are seen in prostatitis and in inflammation of the seminal vesicles. The color is best seen in the stains on the white linen clothing. The dried stain sometimes presents a blue or bluish violet border, and this shows a large quantity of indigo in the semen. If pus and indigo occur at the same time, the stain may be a beautiful blue-green. The spermatozoa also show differences in their forms and relations. Sometimes they are fresh and lively, and at others the spermatic fluid will contain nothing but motionless ones when it is freshly passed. I have seen cases of high grades of spermatorrhœa in which micturition was followed by the discharge of large quantities of semen, in which the spermatozoa were perfectly motionless, although the fluid looked perfectly normal. We can sometimes discover an actual decrease in the numbers of the spermatozoa, as in old age, after sexual excesses, etc. Their forms are also sometimes changed. In inflammation of the seminal vesicles, with or without inflammation of the testicle, we not unfrequently see shortened, spirally coiled tails to the spermatozoa, or even the shovel-shaped heads without any tails, in the bloody purulent sperma. The indigo appears among the spermatozoa as beautiful blue flakes, or as black-blue granules.

When the spermatozoa are entirely absent from the spermatic fluid, the condition is called azoospermia, and as the fructifying element is lacking, impotentia generandi is presented. This condition is to be carefully differentiated from impotentia coëundi, because patients having azoospermia are able to indulge in frequent and powerful coitus and usually have no idea that their semen is diseased. Azoospermia is usually the result of epydidymitis, especially if occurring on both sides, but this is not absolutely necessary, as an inflammation of the vas deferens may lead to the same result. It originates through the obliteration of the vasa deferentia; the secretion of the testicle is prevented from reaching the seminal vesicles, and no more spermatozoa appear in the semen. The ejaculated semen contains merely the secretion of the vesicles and of the glands of the urethra. In the fresh state it is thrown out in normal quantity, appears fully as gelatinous as the normal semen, but we observe a slight difference in its shade of color; it is more transparent and more like water. Under the microscope, we sometimes see lymph corpuscles, sometimes epithelium undergoing colloid degeneration, and at others, molecular fat. If it is allowed to stand several hours, we find large numbers of well-formed, large, transparent crystals (from phos. acid and magnesia)—the sperma crystals.

We clearly see that the greater portion of the spermatic fluid is produced by the seminal vesicles, and that the testicles only furnish the active fructifying principle, the spermatozoa, as is clearly shown by the azoospermia after occlusion of the vasa deferentia. As the sperma crystals are found in azoospermia, it can be asserted that they are peculiar to the secretion of the seminal vesicles.

The rapidity, or the slowness with which these crystals are formed gives us an idea of the fructifying power of the sperma. If it contains many living spermatozoa, the crystals will be very late in forming, sometimes first appearing on the third day, because crystallization is impossible in a fluid which is full of motion. If, on the other hand, the sperma has either no spermatozoa, or only dead ones, the crystals will appear at the end of half an hour. Therefore, the earlier and more complete the crystallization and the greater the numbers of crystals in the semen, the more unfavorable will the condition be.

NOTES UPON A NEW APPLICATION OF THE ACTIVE PRINCIPLE OF MENTHA PIPERITA.*

Translated from Gaceta Medica de Mexico,

By Dr. E. B. Rankin, Washington, D. C.

In premising his remarks, the Doctor speaks of the very ancient use of the peppermint for colicky pains, both in regular and domestic practice, and states that, in his opinion, its therapeutic action is due to the anæsthetic effect produced upon the peripheral sensitive nerves. In support of this theory he mentioned several experiments which he made upon himself, his patients, and the lower animals, which tended to show that the substance taken into the mouth, dropped into the eye or injected hypodermically, produced first a feeling of heat, followed immediately by a cold sensation, which, in a second or two gave way to a loss of sensibility for from two to five minutes and left no appreciable effect upon the tissues so treated.

He cited, in all, twelve cases of neuralgia and other pains successfully treated by himself and his colleagues, the most important of which are given below:

R. E. had been three months and a half in San Andrés Hospital, being treated for vesicular emphysema, complicated by pneumonia, right side, and bronchial catarrh. In the middle of last December was taken with pain in one of the last intercostal spaces of the left side, which appeared to be of nervous origin. The pain was combated with various local and general remedies, including morphine hypodermically, with but little success, until the 6th of February, when an hypodermic injection of four drops of the liquid was given, directly at the seat of the pain. In half an hour after there was great relief, and on the following day the pain had disappeared entirely and has not reappeared until now (April, 1885). Exploration at the point of injection showed no signs of inflammation of the tissues.

Another patient, A. P., belonging to the service of Dr. Gutierrez, M., in the same hospital, during the stage of resolution of a pneumonia of the left side, suffered greatly from intercostal neuralgia, which resisted all the usual means of relief. Four drops of the solution were injected at the sixth intercostal space. In five minutes a diminution of the pain was very notable, and the improvement remained for forty-eight hours, after which the pain could only be excited by pressure and then it was not as intense as before.

Jesus Carilla occupied a bed in the same hospital, being under treatment for paralysis agitans, on the 8th of February, was found to have been suffering for three days with trifacial neuralgia of the left side (in connection with a decayed tooth), which was very intense at times, and disturbed his sleep. At the end of a paroxysm of pain he was given an injection of four drops of the liquid in the parotid region, at the point of emergence of the branches of the inferior maxillary nerve, that being the most sensitive point upon pressure. Ten minutes after the patient expressed relief and a sensation of numbness at the point of injection. The pain has not

* Read before the Academia de Medicina de Mexico, February 25, 1885, by Dr. Miguel Cordero.

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reappeared since then, and there is no indication of inflammatory process at point of injection.

Sra. L. O. C. was affected with trifacial neuralgia, which seemed to have its origin in carious teeth. The pain extended to the external ear. The pain was very intense, but the patient was opposed to the subcutaneous application of the medicine. In view of the fact that the pain extended to the external ear, four drops of the solution was put on a piece of cotton and placed in the external auditory meatus. In a few minutes the pain began to subside, and the relief was prolonged for twelve hours, and the patient was not seen after.

Felix Martinez, patient in Valdivielso Ophthalmic Hospital, being treated for suppurative keratitis, which caused him great pain, with evening exacerbations which resisted all means of relief, was given hypodermic injection of four drops of the liquid in temporal region of the affected side. No great relief was expected, but nevertheless it was very marked and permanent.

Andres Coutreras, patient in same hospital, suffering from irido-choroiditis, accompanied with great pain, was given an injection at the same hour as preceding patient. In half an hour the pain began to diminish, and entirely left for eight hours, after which it returned with less intensity. In this case injections of morphine had been given without the relief experienced after the mentha pip.

R. E., affected with kerato-conjunctivitis, with very acute pains. One drop of the liquid was instilled into the eye. Immediately the patient experienced a disagreeable sensation of heat; examination showed considerable increase in the conjunctival injection, but in forty-five minutes the eye returned to its original appearance, and the pain disappeared entirely for the space of six hours. Three days after, an injection of four drops was given in the temporal region, which was followed by entire relief of the pain for five hours. The ocular disease was cured in ten days without any seeming effect of the treatment upon the duration of the disease.

In the discussion which followed the reading of this paper, the question was raised that the author had not told his formula for preparing the remedy for injection. This, strange to say, the author persistently refused to do, saying that as it was an old remedy each member should study up a mode of preparing it.

In view of the number of cases cited and the prompt effect of the remedy, perhaps more experience may prove it to be a substitute for morphine, purely local in its effect, without the general and often pernicious narcotism which so often follows morphine.

CONTROL-TESTS AND DRUG-PROVINGS.*

IN order to a perfectly successful application of our materia medica in all cases of curable disease, it is necessary, in the first place, that our provings—that is, symptom-lists—shall be absolutely faultless. What, now, are the methods and rules which should be adopted in our investigations of the effects of drugs, with the view of guarding against errors in experiment and consequent misinterpretation of results?

Every experiment, in its widest sense, is a questioning of nature. The principle of all such interrogation is *to guard each question by a certain form of safeguard, known as counter test, or control-test*, which shall assure us that the answer we receive in the form of a result of our experiment is not only the right answer, but, what is more important, that we understand it and interpret it correctly. The counter-test, or control-test, embodies various elements, according to which it can be applied in a variety of forms; but each form may be varied in an unlimited diversity of special ways, of which the following are examples:

Certain writers have maintained the proposition that everything hitherto considered as bacteria in disease is nothing but coagulated fibrine. The investigator proposes to interrogate nature to discover whether this proposition is true. To this end, it would not be sufficient for him to follow the same course pursued by the orignator of the proposition, interpreting the results of his experiments in the same way, and thus arriving at the same conclusions. In the present instance, nature needs to be cross-examined most searchingly. This is done by subjecting the alleged fibrine to a set of counter-tests which fibrine cannot withstand. It is looked at by an expert microscopist; and it is found that the supposed fibrine or coagula are organized living beings, giving birth by cleavage to a new progeny in the form of germ-spores. Not satisfied with this evidence, however striking, the inquisitor applies certain chemical re-agents, which confirm, beyond doubt or cavil, that the first proposition was entirely wrong. In this case, the use made of particular means of investigation constitutes the counter or control-test which secures the truthful reply of nature, and which we may call *the counter-test by exclusion*.

Again, take another proposition, viz., that anthrax is a disease caused by a microbe known as bacillus anthracis. Here, the proof could not be furnished by simply inoculating a healthy animal with blood from a diseased one. This might show that anthrax is contagious, but it would not show the cause of the contagion asserted in the proposition. Hence, the experimental proof is not conducted in this way, but it is carefully guarded by a treble control-test. Sterilized tubes containing urine infected with anthrax blood show under the microscope innumerable anthrax bacilli, which, inoculated into healthy animals, soon kill them. On the other hand, sterilized urine into which healthy blood has been introduced undergoes no change whatever, neither does a third set of tubes containing simple sterilized fluid. If the second set of tubes were found to contain anthrax bacilli acting fatally upon animals, it would completely disprove the theory that the bacilli of the first set caused the anthrax. And lastly, if the third set of tubes contained any bacilli, it would prove that anthrax bacilli do not come from blood at all, and that they have nothing to do with the disease. If the same tubes, containing no bacilli, should still cause anthrax, they would not only completely disprove the proposition, but would leave the whole matter shrouded in utter darkness. As it is, the control-test completely proves the validity of the proposition, and may be called the *control-test by reservation*.

A third illustrative proposition is, phosphorus injected into living organisms is a deadly poison. Supposing this to be an established truth, is phosphorus as such, or are substances with which it is combined, or its compounds, the cause of death?

Here the principle of counter-test is applied in a third form. It is known that phosphorus, even if introduced in its simplest form, combines with oxygen, forming phosphoric acid. Again, phosphorus may be experimentally combined with an oil, Here, the question would naturally arise, whether the results of the injections might not be due to one of the compounds of phosphorus, or possibly in whole or in part to the oil? Hence, to carry out the experiment logically, the phosphorus-compounds and the oil should be tested or proved separately. The result will show that the oil has no injurious operation, but that phosphorus becomes a poison by its union with

* Abstract of a paper by Dr. C. Wesselhœft.

oxygen. This may be called *counter-test or control-test by comparison.*

A fourth principle is that of repetition. Not one, but several of the principles involved in the control-test, are required as a proof or final evidence that the result obtained is due to the cause to which it is ascribed. In reality, the proof is not valid in any of the foregoing experimental tests. "One swallow does not make a summer," neither does one experiment prove that an effect is due to the supposed cause. It is only when an effect follows a cause, not only frequently, but to the best of our knowledge universally, that we can assume that, *cæteris paribus*, it is due to that cause, and nothing else.

On the other hand, the test by repetition alone, without the other principles I have named, would be without force. In the anthrax case, not one, but several test-tubes of each kind must be prepared, to guard against possible failures and errors. In the phosphorus cases, the oil has to be tried many times by itself, and likewise the phosphoric acid by itself, to satisfy us of its real effect. Thus, in employing the principle of repetition, each successive experiment is the counter-test of the one preceding it.

Another indispensable element in conducting experiments which are intended to be conclusive, is an untiring degree of *persistency*. An example of this quality may be found in the great series of investigations undertaken by Bischoff and Voit, for the purpose of determining, among other things, the manner of metamorphosis of nitrogenous compounds under the co-operation of oxygen.

The observers in this case, and not the animals which were the subjects of their experiments, should be considered the true martyrs, for they devoted themselves to their labors for a year and a half with scarcely an intermission. During this time they conjointly completed 65 analytical tables, for each of which ten separate calculations as to original weights, waste of elements, etc., had to be repeated, on an average, about seven times, making no less than 455 exhaustive and complete analyses made by these famous observers within the period specified.

It must also be remembered, that since the control-tests are seriously complicated by differences in quantity of the substances employed, and in kind, weight and temperament of the subjects of experiment, certain precautions in the form of one or the other of these tests must be observed, if we wish to interrogate nature as she desires to be questioned; else she will give us answers which, being unintelligible, we shall either misinterpret or cast aside as erroneous.

Some tests require more of these precautions, some less. They all may lead to fairly reliable results, provided all experimenters bring to their work the great essentials, time and patience.

The principles involved in counter-tests are unquestionably applicable to the physiological method of drug-proving, which constitutes the most difficult, but at the same time if successful, the most useful, kind of experiments ever attempted for the benefit of man. Let me explain the difficulties to be encountered, by first adverting to what is meant by drug-proving, and then inquiring whether we have been and are doing it correctly and with prospects of reliable results.

We are all familiar with "proving," as it has been customary to conduct that useful process from the beginning of this century up to the present time. It is simply this: A moderate quantity of some drug is taken by some healthy persons, and all the "deviations from the normal state of health" which follow are carefully recorded as due to the effects of the drug, and to nothing else, "as symptoms do not come of themselves," but are due to the drug.

Now, bearing in mind the examples in which the control-test in its manifold varieties obviated errors in drawing conclusions, let us review briefly what kind of conditions and precautions are observed in the customary traditional mode of proving.

The precautions are as follows: Accuracy in conducting provings; safe and very minute doses; the purity of drugs; the employment of single drugs; the diet; the avoidance of bodily and mental fatigue; the sex; the observers under different conditions, as different provers have different symptoms; the injunction to make *manifold experiments* on a variety of provers, *i. e.*, *repetition*, until provers observe upon themselves mostly symptoms like those *already experienced by others;* provers should be of temperate habits and of fine powers of observation; especially physicians should prove.

Such are the conditions and safeguards named and hitherto employed, without any essential alterations; and the results thus obtained have been recorded as *caused by the drug, and as belonging properly to it.*

If we separate these precautions into groups, according to their value, we find that by far the greater number are to be regarded as generalities, indispensable certainly, while only two of them at most are in the form of control-tests, assuring the success of all the other precautionary measures. One is the condition of *sound health*, the other is the *repetition* under varied circumstances.

The reason for counting sound health as a control-test is the injunction that the physician conducting the experiment should exercise control over it by daily examining the prover and his records. But what, it may be asked, will be gained by that, if what the prover has recorded, or what he reports verbally, is invariably due to the medicine taken by him?

The value of the control-test by repetition is far greater. Each experiment controls the other, especially if we make it a rule to regard chiefly symptoms which have been observed by all provers.

How can we apply the principles of control-test to "provings?" We have seen that in the examples of control-tests there are employed several principles, either singly or combined, to insure an approximately true result. For the sake of brevity, I have designated these principles as those of *exclusion, reservation, repetition* and *comparison;* and it is obvious that, among all of these, the principle of *comparison* plays the most important part.

It has been assumed as a self-evident fact, that, if a healthy individual takes a drug in order to ascertain its effects, all deviations from normal health are due to the drug taken, and to nothing else. But whatever may have been the case in times past, I doubt if, in science, self-evident truths will be accepted now. We must, therefore, regard this so-called *axiom* as a proposition requiring proof, first, *in general*, and second, in regard to its *particular* details of application.

In obedience to the great rule of practical philosophy, that nothing shall rest on mere theory, but only on careful experiment, let us submit the above-named proposition to a simple test in a general way. Select as many "provers" as possible, examine them with regard to normal health, their intellectual ability, habits, etc., and exclude all those unfitted by indisposition or temperament, and administer to all the selected provers an *inert* substance. This is done with the understanding that the provers have, for the time being, agreed to subject themselves to an experimenter, and to take the substances offered them under the most positive assurance of perfect safety, but without the prover's knowledge as to what he is taking. The provers now take what is offered them, and record all deviations from normal health.

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The result, in experiments of this sort, has been that a great majority of such provers will record long lists of abnormal feelings or symptoms which will give the impression of severe suffering.

Having discovered what and how numerous may be the abnormal feelings produced on healthy persons without medicine, we proceed to try the effects of a substance of which we will suppose we know nothing, and regarding which we desire to discover whether it has any effects when given in minute doses, and what those effects are. Now, as many of our provers as can be prevailed upon to make a second attempt, take the substance to be tested, say, in the third centesimal trituration. Deviations from health, in the form of sensations of disturbed health, are again observed and recorded ; and we now proceed to sift, to compare, and to estimate the result.

In the first place, we shall find that a great many symptoms or feelings of deviation from normal health, follow the taking of the medicinal substance to be tested. We should know, by comparing them with the symptom lists obtained while taking the inert substance, whether a difference existed. If we should find that the symptom lists, after taking the medicinal test substance, were nearly identical with those after the trial of the inert substance, we should be forced to conclude that neither had an essential part in the production of its symptom list.

If, on the other hand, marked deviations from health had followed the medicinal test substance, if these deviations had been distinct and different from the symptom lists obtained without medicine, if furthermore, the symptom lists after the medicinal test substance had been substantially corroborated by the resemblance between the symptom lists of the various provers, then we should be reasonably sure that the symptoms were due to the test substance. Failing in this, we must conclude that they were not due to it.

Now let us view the "axiom" quoted above in the light of these experiments. What does a critical analysis of the test and its results reveal? It reveals, in general, that *many symptoms or deviations from normal health may and do arise from other sources than the substance given for proving*, and that *hence the "axiom" is not well founded.*

Therefore, when we undertake provings in future, we must guard against the incorporation of such symptoms with those which are derived from a test-substance. This renders the process of drug proving immeasurably more difficult than it has hitherto been considered, owing to the absolute necessity of applying the safeguards of control-tests, and rigid critical analysis according to control-tests.

In order to obtain results of value, proving that the effect obtained is due to the cause employed (in other words, that in a proving certain symptoms are due to a drug tested), *it is indispensably necessary that the results should essentially agree in as large a number of cases as possible.* If they agree only in three it is less conclusive than if eight or sixteen agree. The larger the number to be compared, the surer will be the conclusion, and hence no test by which we hope to demonstrate anything should be without as large a number of repetitions as possible. On this principle rests statistical evidence of every kind, and it should stand first and foremost in the proving of medicines.

Therefore, when this same principle has been employed as described in the example of a proving, it will prove with considerable force that symptoms are often due to other causes than medicine, because the evidence was not furnished alone by one individual, but by many ; and the evidence will be the more conclusive the greater the number of individual tests.

It seems to me that such a control-test is an excellent one for the elimination of all timid and over-imaginative persons whom we find both among men and women ; and it would give us the means of selecting only sturdy, non-imaginative persons of the proper amount of self-control. It is among this class of persons that we find the really most susceptible and keenest observers and students of human nature. Let us have control-tests, then, for the selection of provers.

In order to extend the demonstrative power of a test and control-test, it should be varied and carried out with the utmost patience and perseverance. We have seen what may be proved in general as to the qualifications of provers, but it is also necessary to discover whether a varied quantity of test substance will alter the result. This has been done in a large number of our provings, but not always by a sufficient number of persons. But even where the provers were employed in sufficient numbers, insuring repetition, the application of the principle of comparison was totally omitted, and all results recorded as if they were all due to the test substance regardless of its quantity, it being taken for granted that different provers may and do produce different symptoms.

Now, I think that most observers will admit that in a result from uncertain causes acting in an organism of infinite powers of reaction, and giving expression to reaction in the form of symptoms, *only, or at least chiefly, those should be selected which agree not merely in expression, but in fact ; and, moreover, the agreement should be not only constructive, but really apparent and obvious.*

Here it is where patience and perseverance come into play To repeat such provings, with varied doses, on provers selected by precautionary or preliminary tests.

In conclusion, I will mention—lest it should be thought that this course of reasoning has all been drawn from the imagination—that in the Transactions of the American Institute, for 1877, may be found the record of an elaborate set of experiments, entitled "A Reproving of Carbo Vegetabilis, Made for the Purpose of Demonstrating the Necessity of Control-Tests in Drug Proving." These were made under my direction, by a large number of provers. In the present communication, therefore, I have described what was actually done, at least in one set of experiments. I have in my possession other records, not yet published, of counter-tests and control-tests, which cannot here be quoted from, but I trust I have carried out my intention of elucidating some of the methods of drug proving and their result.

PURIFICATION OF DRINKING-WATER.

THE following are the practical conclusions arrived at by Professors Peter T. Austen, Ph.D., F.C.S., and Francis A. Wilber, M.S., of the Rutgers Chemical Laboratory, in their report on the above subject (*Druggists' Circ.*, May, 1885):

"We consider it established that, by the addition of two grains of alum to the gallon, or half an ounce to one hundred gallons, water can be clarified by standing, and that neither taste nor physiological properties will be imparted to it by this treatment. By increasing the amount of alum, the time required for the separation and settling can be diminished, and *vice versa*, by diminishing the amount of alum added a greater time will be required for the clarification.

This method is particularly adapted to the clarification of large volumes of water, whose filtration is not practical. The cleared water can be racked off to as low a level as possible, after which the sediment should be washed out and the receptacle cleaned by a free use of water."

"We consider it also as established that, by the addition of two grains of alum to the gallon of water, or half an ounce

to the hundred gallons, water can be rendered capable of immediate clarification by filtration. The clean water obtained by filtration, after adding this amount of alum, contains no appreciable amount of free alum, and, in fact, in the majority of cases, ordinary tests fail to reveal its presence."

The most practical form of filter for household use, and one that will easily filter a pitcherful of water in a short space of time, can be made out of a bottle. The best form is the long kind in which sweet oil is sold, although almost any kind of glass or earthenware bottle will answer. The bottom of the bottle is cracked off, and the sharp edge removed by rasping with a file. The cracking can be done by tying a thin, soft string, soaked in turpentine, around the place where it is intended to crack, leaving as small a knot as possible, then setting fire to the turpentine, holding the bottle bottom up. After allowing the oil to burn for an instant, the end of the bottle is placed quickly in cold water, when, if the operation has been rightly conducted an even crack will be produced, and the bottom of the bottle will come off easily.

A layer of cotton is now placed in the bottle. The cotton must be worked in water, perfectly warm water, in order to remove the adhering air, and to wet it well. A wad of the wet cotton is dropped into the bottle and covers the mouth of the neck. Other pieces are dropped in, care being taken to build the layer up evenly, and to add the cotton in rather small pieces. After dropping them in they should be pressed down and arranged evenly by means of a rod. In this way a layer is made which should be from two to three inches thick. It should not be pressed down too tightly, else it may filter too slowly; neither should it be too light, or water may form channels through it. After a little use the plug generally adapts itself. Particular care should be taken to be sure that the cotton is snug against both sides, since the water is liable to escape there. The plugs, however, are easy to make, and a few attempts will soon teach one all the necessary manipulations.

This bottle filter can be suspended or supported in any convenient way. Perhaps the simplest support is a block of wood having an auger hole bored through the centre, and the edges of the hole reamed out. In this hole the bottle sits securely, and the bevel of the hole catches the shoulder of the bottle, thus holding it upright. To use this filter, it is only necessary to pour the water, which has been previously mixed with the right amount of alum, into it, when the clear water will run in a considerable stream from the bottom, and can be caught in any convenient receptacle. It is well to throw away the first tumblerful that runs through, if the plug is a new one, as a little sediment will pass through at first, but this soon stops. It is also advisable to keep the bottle nearly full while filtering, as this hastens filtration.

The mixing of the water with the alum previous to the filtration should be done in a separate receptacle. The only requisite here is that the vessel in which the mixing is done must be clean. A pail, jug, can, or any other vessel used in the kitchen will do. It is well to have the pail or can marked on the inside with scratches so as to be able, without difficulty, to judge how much water there is in it, since the amount of alum should be added in about the right proportions. The eye gets very accurate in judging the volume after a little practice, but it is better and just as easy to be exact. A clean tin can of two to four gallons capacity is a good size, and, if possible, should not be used for any other purpose than for the drinking water. It should be kept scrupulously clean, and after each use should be washed out and dried. As a rule, a can of four gallons capacity will be found quite large enough to filter the water used by a family of average size. The necessary amount of the alum solution is added to the water, the whole well mixed by stirring, and then poured into the filter. The mixing is best done with a long-handled spoon or with a small cake turner. This mixer should not be used for any other purpose. To facilitate the pouring into the filter, it is well to have the can provided with a mouth or spout.

The solution of alum is made as follows: Dissolve half an ounce of alum in a cup of boiling water, and when it is all dissolved, pour into a quart measure and fill to a quart with cold water. (This solution should be kept in a bottle labelled "alum.") Fifty-four drops of this solution contain 2.3 grains of alum, which is the amount to be added to one gallon of water. A modern teaspoon, scant full, will be about the right amount to add to every gallon of water to be filtered. No harm would be done if by mistake considerably more was added; but a more satisfactory method will be to procure a small measuring glass. One fluid drachm will be the right amount. Some waters will, no doubt, require even less.

Another excellent filter for temporary home use may be readily made, according to G. G. Groff, in the following manner:

Take two large flower pots of earthenware, with perforated bases, say of two gallons capacity. The one fill with ordinary sponge, or, much better, with asbestos; the other pot fill in the following manner: Over the hole, place a handful of coarse asbestos, then place in a layer of clean pebbles, next a layer of coarse clean sand, two inches deep, then four inches of pounded charcoal—bone charcoal is best, and finally, on top of the charcoal, a layer of fine sand two or three inches deep. The pot filled with sand and charcoal may be placed on a three-legged stool, which has a hole bored in the seat so that the water may run from a projecting piece of asbestos into a vessel below. The pot filled with sponge or asbestos is set in the pot containing the sand and charcoal. The water is poured into the upper pot, and runs out at the bottom of the lower one. It is well to have the upper pot larger than the lower one. The layers of sand and charcoal may be packed in an ordinary tin funnel, or in a small keg, which is to be furnished with a spigot near the bottom for withdrawing the water.

In a filter constructed as above, all that is necessary is to add the water so slowly that it can all pass out of the lower vessel without overflowing at the top. But a filter should be used intermittently—that is, it should be used one day and then allowed to rest for a day. The object of this is to allow the water to drain out, and the air to enter the interstices of the sand and charcoal. A filter made of sand and charcoal and used on alternate days will do better work, and endure for a much longer period than one in constant use; indeed, we cannot affirm that the oxidizing power remains any considerable period in a filter in constant use.

To cleanse a filter, the sand and charcoal should be removed and replaced with fresh material, or they may both be thoroughly washed with clean water, then with water containing a solution of potassium permanganate. Both sand and charcoal should then be exposed for several days to air and sunshine. It is always best, however, when a filter needs cleansing, to repack with fresh material. Sand and charcoal may also be purified by baking them in a furnace. Dr. Parkes thinks a filter should be cleansed at least once every three months.

In the filter here described, it is expected that the sponge or the asbestos in the upper pot will retain a large portion of the suspended matter, hence this should be frequently removed and thoroughly washed, then boiled in water containing some potassium permanganate.

XUM

It is fairly well settled that no filter, by once passing water through it will remove *all* the organic matter which may be present, and especially are we not certain that filters will remove the germs of cholera, typhoid fever, etc., when these may be present in drinking-water. Hence, when water is loaded with organic matter, or when the germs of some disease are strongly suspected to be present in drinking water, it should be boiled before being used.

In the Ashanti campaign, the very bad water was purified by: 1. Precipitating the suspended matter with alum; 2. filtering through sponge, sand, charcoal in pieces; 3. Then boiled; 4. A few drops of a solution of potassium permanganate added. The worst marsh water was found innocuous after this treatment.

CLINICAL SIGNIFICANCE OF FIBRINOUS EXUDATIONS UPON THE MUCOUS MEMBRANE OF THE UPPER AIR-PASSAGES.—Dr. F. H. Bosworth, in a paper on this subject read before the American Laryngological Association (*New York Medical Journal*, May 24, 1884) sums up the points on which he would place special emphasis as follows:

1. A fibrinous exudation which occurs in the crypts of the follicles of the faucial or pharyngeal tonsil, or of the mucous membrane of the lower pharynx, has no tendency to extend, and characterizes a disease which is self-limited and which involves no dangerous tendencies.

2. A fibrinous exudation which occurs upon the surface of the tonsil or of the mucous membrane of the fauces, constituting a croupous membrane, so-called, presents gross appearances by which it can be unmistakably recognized. It is easily detected, and can be peeled off from the parts beneath without lacerating the tissues. It is a white, clean, healthy-looking membrane, and presents every aspect of a living tissue.

3. A croupous membrane in the fauces of an adult marks the existence of a disease, which, while being undoubtedly a blood poison, is still a self-limited affection, and one which involves no danger to life.

4. A croupous membrane forming in the fauces of a child marks the occurrence of the same disease as a croupous membrane in an adult; but in the child there is the additional danger of a new centre of development occurring in the larynx, where it may involve the greatest danger to life, but mainly as a mechanical obstruction to breathing.

5. A diphtheritic membrane developing in the fauces marks the occurrence of a disease which is dangerous to life, not only from primary and secondary blood-poisoning, but also from the tendency to the development of the same morbid process in the larynx.

A MEDIÆVAL INSTRUMENT FOR PREVENTING COITUS.—At a recent meeting of the American Gynæcological Society, Dr. T. Gaillard Thomas showed a relic of the middle ages, in the shape of a contrivance for preventing women from indulging in intercourse. It had lately been given him by a friend, by whom it had been found in the bottom of one of a number of trunks that constituted, with the odds and ends which made up their contents, the remnant of an estate in Europe that he had been called upon to take charge of. The apparatus resembled the well-known ivory affair that was furtively exhibited to tourists at the Hotel DeCluny. It consisted of a jointed iron belt, to encircle the hips, to which a rigid strip of iron was connected before and behind, somewhat after the manner of a T-bandage. This strip of iron was widened where it passed over the vulva, and at that place there was a slit-like fenestra with a serrated edge, the teeth being bent somewhat outward. At the situation of the anus there was another perforated expansion, circular in this instance, and that opening also was serrated. The whole was covered with ancient-looking velvet. The strip of iron which passed between the thighs was hinged to the pelvic girdle in front, but behind (perhaps to add to its discomfort) it was a secured with a lock. The original lock was remarkably antique, and bore the emblems of high nobility—perhaps royalty. On that account his friend had desired to keep possession of it, and therefore he (Dr. Thomas) had replaced it with a small modern padlock.

INTERMITTENT PULSE.—Dr. B. W. Richardson, London, recommends the use of alcohol as the one agent which most influences the nervous mechanism of the heart, so as to exert an immediate control over an intermittent pulse. Its action is prompt and decisive. He has seen a total cessation of the phenomenon within five minutes after the administration of six drachms of pure alcohol in water, in a case wherein the pulse intermitted at least ten times within a minute. He says that this effect is so reliable that the patient unfortunately often resorts to the remedy, to his ultimate disadvantage.

EFFECTS OF BICYCLE RIDING.—The *London Lancet*, speaking of the dangers from immoderate "cycling," calls attention to something more serious than the obscure nervous complaints, developed by continual jarring of the spinal column, which have been attributed to the practice, and that is, "the amount of pressure brought to bear upon the perinæum in growing boys, affecting directly the prostate, the muscles of the bulb, etc., and indirectly the whole generative system." Constant horseback riding among the Tartars and some tribes of American Indians, is well known to induce complete impotence at a comparatively early age; and if "these sad results are the outcome of immoderate equitation where there are an extensive seat and a stable foot rest, and where the adductor muscles of the thighs are used, what are we to look for, where our boys of ten and upwards spend the greater part of their own time riding bicycles, and get over thousands of miles in the year, perched upon a saddle no bigger than the hand, which conveys every jolt of the machinery to the body; where the jolts are ten times more numerous than those experienced by the equestrian, and occurring without any approach to rhythm, and conveyed unexpectedly to the person? What 'cycling will do towards the advance of those prostatic affections, which so often render the closing years of life miserable, time alone will tell."

ELECTRIC LARYNGOSCOPE.—The electric light is being utilized for purposes of diagnosis in the throat, nasal passages, and the vagina, to such an extent and with so much satisfaction to the physician that in a short time but few offices will be without it. We have seen nothing better than the apparatus prepared by Curt W. Meyer, No. 357 Fourth avenue, which consists of a double cell Curt battery, a tongue depressor, to which is fitted an electric lamp, a universal lampholder, an extra lamp mounted, and a mouth mirror. The instruments are not liable to get out of order.

PECULIAR RESULTS OF BEE-STINGS.—In the *Cincinnati Medical News*, October, 1884, Dr. E. A. Cobleigh, of Athens, Tennessee, calls attention to some peculiar phenomena that resulted from the sting of a bee in the case of his own children. In one case, a sting on the thumb was followed by extensive urticaria on one side of the face, neck and shoulder; while, in a second case, a sting on the ball of the great toe of the right foot was followed in a few minutes by an œdema of the left side of the face, which persisted for twelve hours or more, and then gradually disappeared.

ARCUS SENILIS IN A CHILD.—Dr. H. F. Hansell reports, in the *Medical News*, April 4, 1885, the case of a mulatto boy three and a half years of age, with distinctly marked and unmistakable arcus senilis in each cornea. It appeared on each eye simultaneously in the upper segments of the cornea, about one year ago, while the boy was convalescing from an attack of measles, and slowly advanced until the arc was made into a complete ring. There was no history of inflammation or ulceration, and the mother positively asserted that the child's eyes never had anything the matter with them except the white rings. The influence of heredity in this case is negative. The mother and several younger brothers and sisters are free from the affection. The boy has no other abnormalities, and his health is perfect.

TANNIC ACID INJECTIONS IN CHOLERA.—During the recent exceptionally severe epidemic of cholera at Naples, Prof. Cantani proposed combating the preliminary diarrhœa by warm tannic acid enemata. The practice was largely and successfully adopted. Dr. Vincenzo Vitone has just published, in *Il Morgagni*, for last month, his results with that method of treatment at the cholera orphanage at Antonio a Tarsia. The disease was promptly arrested in a large number of cases. The following clyster was administered: Warm water, 400 grammes; tannic acid, two grammes; gum arabic, fifteen grammes; laudanum, five drops. In adults, Dr. E. Villani has injected per rectum as much as fifteen grammes of tannic acid in two litres of warm water, with invariably good results.

SELF-DELIVERY BY LAPAROTOMY.—One of the strangest cases, perhaps, on record in the annals of gynæcological practice, was reported by Dr. Guggenberg, at the meeting of German physicians, in Tetschen, Bohemia—the case of a confined woman performing laparotomy successfully upon herself, the woman herself, in perfect health, being presented to the society. At two o'clock, as Dr. G. related, he was summoned to hurry to a woman who had cut her abdomen open. He found a woman of large and strong build, but of a thoroughly anæmic type, on a poorly-furnished bed, surrounded by unmistakable evidences of poverty. Examination of her eyes, which were lightly closed, revealed that her pupils reacted promptly to light and shadow; her pulse was scarcely perceptible; her consciousness, though not perfectly intact, was sufficiently clear to enable her to answer questions put to her by corresponding motions of her head. Examination of her body showed an incised abdominal wound running from above downward and inward, exposing a considerable quantity of intestines. The uterus was seen below, firmly contracted, of about the size of a child's head; bleeding had stopped altogether. Between her knees he discovered a dead child. The parts having been carefully cleansed and the intestines replaced, the wound was sewed up and dressed antiseptically. Besides vomiting and a moderate fever for a few days, no unfavorable symptoms appeared. The history of this case showed that the woman had seven previous confinements, all more or less of a severe type. This time the labor pains had been so intense that the woman felt convinced that she had to die; and having heard or read of the Cæsarean section, she decided to perform it on herself, with the hope of thus gaining an easier death. She divided layer after layer, until a profuse hemorrhage arrested her operation. A dark, protruding mass was taken up, recognized as the afterbirth, and placed under the bed; finally a foot appeared, on which she dragged until the whole body had been drawn through the external wound. Having cut the cord, the woman lay down to die, but was shortly after discovered by her relatives in her precarious condition. She recovered completely, and is capable of performing the hardest kind of work.—*Wien. Med. Bl.*, Jan. 15, 1885.

PIN SLING.—Mr. Sampson Gamgee, consulting surgeon to the Queen's Hospital, Birmingham, describes in the *Lancet* a convenient device for a sling, which will commend itself for its simplicity. A gentleman consulted him for a painful condition of the tip of his little finger. To secure the benefits of physiological position and immobility, he bent the elbow at an acute angle and raised the hand; then pinching up the sleeve at the wrist he fixed it to the coat by a strong safety pin. With another pin he attached a fold of the sleeve to the coat just under the elbow. Rest was absolute, the finger waxed pale and easy, and the patient went to his office duties in comparative comfort. A third pin, fixing the inside of the arm to the body of the coat, adds greatly to immobility. In this position Mr. Gamgee has found one pin very useful in steadying the shoulder of a young lady who had had it dislocated three times. She had barely recovered from the last accident when she was very anxious to go to a ball. By fixing with a safety-pin the inside of the sleeve to the bodice, a trusty, yet invisible checkmate was provided, allowing freedom of hands but barring abduction. These are trifles, only noted apologetically, because *pro re nata* they may be useful.

LACTIC ACID AS A CAUSTIC.—Von Mosetig-Moorhof applies the concentrated acid to fungous granulations, lupus and epithelioma in preference to any of the common escharotics, his reason being that while it thoroughly destroys not only the cells of the new growth, but also the stroma and nutrient vessels, it spares the healthy tissue. His method of using it is as follows: The surrounding healthy part is covered with a layer of simple cerate, then a piece of cotton saturated with the acid is placed upon the diseased tissue, and covered with gold-beater's skin, a bandage being applied over the whole; or a paste may be made of lactic and silicic acids, which may be spread over the affected surface. The bandage is removed after twelve hours, and a simple dressing substituted. The pain attending the application is said to be slight. From five to seven applications are generally sufficient for the cure of an ordinary case of lupus, and the resulting scar is always smooth and soft.—*New York Medical Journal.*

POST-NASAL CATARRH.—Dr. Curtiss, of St. Louis, thus cures naso-pharyngeal catarrh (*St. Louis Medical Journal*): The treatment is conducted by means of sprays, and the fluids used are composed as follows: A cleansing fluid is first used, of boracic acid, glycerine and water; after the cleansing process, a spray of melted cosmoline with a proportion of five grains in two ounces of corrosive sublimate. The "cure" in this is very prompt, taking about ten treatments; the discharge stops and the mucous membrane resumes its natural appearance. He mentions this as a type of no less than twenty cases which he has treated successfully within a year past.

COMMON SALT IN THE TREATMENT OF PLEURISY.—In a series of cases of acute pleurisy, Schulz gave a tablespoonful of a one to thirty solution of chloride of sodium every two hours, dry diet being at the same time imposed. Under this treatment the exudation diminished rapidly, and the quantity of urine passed was notably increased. The appetite was improved, and there was no excessive thirst.

ERGOTIN AND QUININE.—Ergotin given in doses of sixteen grains will neutralize the cerebral effects of fifteen grains of quinine. Tinnitus may be entirely avoided by combining these two remedies.

XUM

MISCELLANY.

—Small-pox is on the increase in Great Britain, thanks to the efforts of the anti-vaccinators.

—The great biennial prize of twenty thousand francs has been awarded to Dr. Brown-Séquard.

—It is said that quinine administered in conjunction with potass. iod. may be dangerous, on account of the liberated iodine.

—Tannic acid, ten to twenty minims of a solution of a scruple of the acid to a drachm of water, injected into nasal polypi, is said to remove them without trouble.

—The receipts from Prof. Tyndall's lectures in this country during 1872 now amount to $32,400, and by direction of the donor this sum is to be equally divided between Columbia, Harvard, and the University of Pennsylvania.

—Dr. Yarrow gives several interesting cases of cure of diabetes mellitus from the use of 10-grain doses of salicylate of sodium given four times a day. Some of the cases had taken the bromides, recommended by Dr. Flint, with no benefit.

—Several severe cases of obstructive and congestive jaundice in St. Mary's Hospital, Philadelphia, under the care of Dr. Wetherill, have been quickly and thoroughly cured by full doses of ammonium chloride, after failure of various other drugs.

—In Dr. Pean's clinic, in Paris, chloroform is used in perfect safety by using an instrument which insures eight per cent. of chloroform to the air breathed. The great danger in administering chloroform is the shutting out of the necessary amount of air.

—Dr. Strong, Chief of Staff of the Ward's Island Hospital, reports 667 patients treated during the month of June, with a death rate of 3.15 per cent. 2,273 patients have been under treatment, during the six months ending July 1, 1885. Death rate, 6.78 per cent.

—A novel advertising scheme has been instituted by Woolrich & Co., proprietors of Ridge's Food, by which the tricycle will be utilized to convey representatives of the house Westward, for the purpose of scattering broadcast the literature concerning this excellent food.

—Cerededo says the combined action of the hydrobromate of quinine and the valerianate of caffein, given in small doses, in the proportion of about two parts of the former to one of the latter, is more powerful than that of any other salt of quinine given in much larger doses.

—At a recent meeting of the Academy of Medicine, Dr. C. A. Doremus suggested meta-phosphoric acid as perhaps a more delicate test for albumen than any yet advanced. The general opinion of the members seemed to favor the careful use of the old heat and nitric acid tests.

—Dr. T. I. Hudson recommends belladonna in intestinal obstructions, applied in the form of extract in hot poultices to the abdomen, or it may be given in grain suppository every hour, or inject $\frac{1}{150}$ grain of atropine every two hours until the pupils become slightly dilated. The relaxing power of the belladonna causes the bowel to right itself by its own muscular power.

—Merkle gives an interesting statement of several persons who ate sausage in which living trichinæ abounded. One of the persons was thoroughly purged with senna and the next day given a tablespoonful of pure glycerine every hour until fifteen doses were taken. He entirely escaped trichinosis, while all the others were attacked with the disease.

—The new State Insane Asylum at Traverse City, Mich., is to be under the direction of the new school. The permanent Board of Trustees consist of Geo. A. Farr, Grand Rapids; H. H. Noble, Elk Rapids; Thos. F. Baker, Traverse City; Jos. W. Friend, Three Rivers; Chas. W. Wells, Traverse City; Alex. Chapetor, Sr., Detroit. The Superintendent has not yet been appointed.

—Maharani Surnamayi, of Cassim Bazaar, Moorshedabad, one of the millionaires of Bengal, and already well known for her munificent liberality, has given a lakh and a half of rupees towards the scheme for providing separate classes for female medical students at the Calcutta Medical College, and has promised to increase the gift to eight lakhs, should a separate college be provided.

—Oxygen, it seems, can, after all, be brought to the liquid state, under such easy conditions that the experiment is likely to become an ordinary laboratory one, in consequence of a recent discovery by M. L. Cailletet. He has found that formene, when slightly condensed and cooled in boiling ethylene under atmospheric pressure, is resolved into an extremely volatile colorless fluid, which, while again passing to the gaseous form, produces cold sufficient to cause the liquefaction of oxygen immediately.

—The death, in this city, recently, of Dr. Robert Gilbert is an illustration of the oft-repeated fact that those who confer the greatest benefits on humanity do not always reap a rich reward for their services. Dr. Gilbert was, for many years, an accomplished physician and surgeon, and during the war was made Medical Director and Superintendent of the United States Army hospitals. To his engineering skill and active brain the city owes its elevated roads. Dr. Gilbert died at the age of fifty-five, worn out by active brain work.

—Professor Tyndall says on the subject of evolution: If asked whether science has solved, or is likely to solve, the problem of the universe, I must shake my head in doubt. Behind, above and around us, the real mystery of the universe remains unsolved, and, as far as we are concerned, is incapable of solution. The problem of the connection of the soul and body is as insolubie in its modern form as it was in the pre-scientific ages. There ought to be a clear distinction made between science in the state of hypothesis and science in the state of fact. And, inasmuch as it is still in its hypothetical state, the ban of exclusion ought to fall upon the theory of evolution.

—According to the *Progrès Médical*, physicians are more numerous in Vienna than in any other city in Europe; there are ten times as many in proportion to the population as in London. This implies a dismal prospect for the younger men, who must be content with very modest fees. One practitioner (whose name is not mentioned) is credited with $40,000 a year, but the rest "*ont tout lieu de désespérer.*" There is a great deal of complaint against the vast system of medical charities, which are extended indiscriminately and are taken advantage of by patients who are amply able to pay a physician, a system which is fast growing in this country to the detriment of all concerned.